Exhibit 1

Part 1 of 2

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
90/009,883	02/25/2011	7,280,838	Rex-7280838	2122

68468 7590 09/28/2011

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EXAMINER	
ART UNIT	PAPER NUMBER

DATE MAILED: 09/28/2011

Please find below and/or attached an Office communication concerning this application or proceeding.

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WASHINGTON, DC 20004-2401

MAILED

SEP 28 2011

CENTRAL REEXAMINATION UNIT

EX PARTE REEXAMINATION COMMUNICATION TRANSMITTAL FORM

REEXAMINATION CONTROL NO. *90/009,883*.

PATENT NO. *7,280,838*.

ART UNIT *3992*.

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified *ex parte* reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the *ex parte* reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).

Office Action in Ex Parte Reexamination	Control No. 90/009,883	Patent Under Reexamination 7,280,838	
	Examiner SALMAN AHMED	Art Unit 3992	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

a☒ Responsive to the communication(s) filed on *25 February 2011* . b☐ This action is made FINAL.
c☐ A statement under 37 CFR 1.530 has not been received from the patent owner.

A shortened statutory period for response to this action is set to expire *2* month(s) from the mailing date of this letter. Failure to respond within the period for response will result in termination of the proceeding and issuance of an *ex parte* reexamination certificate in accordance with this action. 37 CFR 1.550(d). **EXTENSIONS OF TIME ARE GOVERNED BY 37 CFR 1.550(c).** If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. ☐ Notice of References Cited by Examiner, PTO-892.
2. ☒ Information Disclosure Statement, PTO/SB/08.
3. ☐ Interview Summary, PTO-474.
4. ☐ _____.

Part II SUMMARY OF ACTION

1a. ☒ Claims *1-96* are subject to reexamination.
1b. ☐ Claims _____ are not subject to reexamination.
2. ☐ Claims _____ have been canceled in the present reexamination proceeding.
3. ☐ Claims _____ are patentable and/or confirmed.
4. ☒ Claims *1-96* are rejected.
5. ☐ Claims _____ are objected to.
6. ☐ The drawings, filed on _____ are acceptable.
7. ☐ The proposed drawing correction, filed on _____ has been (7a)☐ approved (7b)☐ disapproved.
8. ☐ Acknowledgment is made of the priority claim under 35 U.S.C. § 119(a)-(d) or (f).
   a)☐ All b)☐ Some* c)☐ None of the certified copies have
   1☐ been received.
   2☐ not been received.
   3☐ been filed in Application No. _____ .
   4☐ been filed in reexamination Control No. _____.
   5☐ been received by the International Bureau in PCT application No. _____.
   * See the attached detailed Office action for a list of the certified copies not received.
9. ☐ Since the proceeding appears to be in condition for issuance of an *ex parte* reexamination certificate except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte* Quayle, 1935 C.D. 11, 453 O.G. 213.
10. ☐ Other: _____

cc: Requester (if third party requester)

Reexamination	**Application/Control No.** 90009883	**Applicant(s)/Patent Under Reexamination** 7,280,838
	Certificate Date	**Certificate Number**

Requester Correspondence Address: ☐ **Patent Owner** ☒ **Third Party**

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LITIGATION REVIEW ☒	/SA/ (examiner initials)	09/08/2011 (date)
Case Name		Director Initials
1:11CV4681 - OPEN		DJR for IY
1:10CV4387 - OPEN		DJR for IY
1:10CV7387 - CLOSED		DJR for IY
1:10CV2411 - CLOSED		DJR for IY
1:10CV1905 - CLOSED		DJR for IY
1:09CV7053 - CLOSED		DJR for IY
1:09CV3557 - CLOSED		DJR for IY
1:09CV5605 - CLOSED		DJR for IY
3:08CV4493 - CLOSED		DJR for IY
1:08CV5190 - CLOSED		DJR for IY

Reexamination	**Application/Control No.** 90009883	**Applicant(s)/Patent Under Reexamination** 7,280,838
	Certificate Date	**Certificate Number**

LITIGATION REVIEW ☒	/SA/ (examiner initials)	09/08/2011 (date)
Case Name		Director Initials
1:08CV5189 - CLOSED		DJR 6-IV
1:08CV5191 - CLOSED		DJR 6-IV

COPENDING OFFICE PROCEEDINGS	
TYPE OF PROCEEDING	**NUMBER**

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	90009883	7,280,838
	Examiner	Art Unit
	HENEGHAN, Salman Ahmed	3992

SEARCHED

Class	Subclass	Date	Examiner
None	None	9/19/2011	SA

SEARCH NOTES

Search Notes	Date	Examiner
Litigation Search	4/7/11	MH
Review of Prosecution History	4/12/11	MH
Review of Prosecution History	9/13/2011	SA
Litigation Search	9/13/2011	SA

INTERFERENCE SEARCH

Class	Subclass	Date	Examiner

DETAILED ACTION

1. This action considers claims 1-96 of U.S. Patent 7280838 and is in response to the Request for ex parte reexamination filed 2/25/2011 and granted on 4/26/2011.

Status of the Claims

2. Original claims 1-96 are rejected.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-6, 9-13, 15-16, 18-30, 36-53, 55-57, 59-63, 69-70, 74-76 and 92-96 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tso et al. (US PAT 6047327, hereinafter Tso) in view of Lu et al. (US PAT 5818824, hereinafter Lu).

In regards to claim 1, Tso teaches ***in a communication system*** (System in figure 1) ***that includes a first system*** (figure 1, InfoCast Server 17), ***a second system*** (figure 1, any one of Content Provider), ***a base station*** (Within network B, element 21 of figure 1, any one of the base station controllers 44 or 45 of figure 2), ***and a wireless communication device*** (figure 1 or 2, Client A or B, i.e. elements 23 or 25), ***a method, comprising: receiving, at the first system, a data transmission from the second system*** (column 13, lines 9-15, In FIG. 4, content provider E 6 is a commercial service,

such as CNN@Work.TM., which provides a real time news service to reporter 91. Reporter 91 is configured to receive the InfoCast information provided by content provider E 6 and store InfoBites and the resources related to each InfoBite in InfoBite database 50 and Server Resource database 55 of server A 17), ***the data transmission including a system identifier*** (i.e. resource identifier, each InfoBite also contains a set of resource identifiers (i.e. storage location). In the preferred embodiment, each resource identifier is a bit pattern (i.e. address code) generated by InfoFeed Interface 57 for each URL to be included in an InfoBite", 8:1-4) ***that is associated with the second system and an information identifier*** (i.e. interpreted as any one of Title, Topic, Summary) ***that is associated with information stored in the second system*** (column 13 lines 16-25, For example, InfoBite 93 contains a news story with the title "Global Warming Warning" and has associated resources 95. Associated resources 95 may include a full story text, a full story audio, a video clip, and an URL to a related story. In the preferred embodiment, each of the resources in associated resources 95 is referenced by a fully qualified URL and thus, just the URLs may be stored in server resource database 55. The resources can be stored in server content database 51 (not shown in FIG. 4) or stored outside server A 17 in content provider E 6), ***wherein the information is not included in the data transmission and is not stored in the wireless communication device*** (column 8 lines 48-64, After an InfoBite containing one or more resource identifiers is transmitted to a user, if the user wishes to retrieve an article or item identified by a resource identifier (i.e. satisfying the limitation information not stored locally), a request is made by the client to the InfoCast server to send the

fully qualified URL associated with the resource identifier to the client. After receiving the fully qualified URL, the client can then initiate an InfoAction to retrieve the item identified by the fully qualified URL. In the preferred embodiment, large files and resources are not stored locally by InfoCast servers but are only accessible by using the fully qualified URL (i.e. satisfying the limitation information not stored locally) to retrieve the resource at the original storage location of the resource), ***generating a message which includes the system identifier and the information identifier; transmitting, from the first system, the message to the base station for transmission to the wireless communication device*** (column 3 lines 56-67, column 7 lines 30-32, column 14, lines 16-21, In Block 107, Base station controller A 44 is interfaced to a base station transceiver A 46 and a base station transceiver B 47 while base station controller B 45 interfaces with a base station transceiver C 48. It is to be noted that each short message service center can serve one or more mobile switching centers, which in turn can support one or more base station controllers. Moreover, each base station controller is interfaced to one or more base station transceivers. The GSM system provides cell-level location information of all devices in the system and also allows the sending of SMS broadcasts messages to all devices. For each item contained in an InfoCast, InfoFeed interface 57 will create an "InfoBite," which can be sent to a user in lieu of the full item Assuming that there is at least one InfoBite that matches the time of day and location of user criteria, schedule/resource controller 61 will send that InfoBite to client A 23 through the use of messaging interface 67. This InfoBite message is sent as an SMS message over the GSM system of network B 21).

Tso teaches server A (element 17) being connected to Base Station Controllers via SMSC and MSC and in column 18 lines 28-34, Tso teaches the old InfoCast server requests the current physical location of client A 23 from the MSC serving the area in which client A 23 is located but does not explicitly teach ***server having an interface with a home location registry***.

Lu in the same or similar field of endeavor teaches in a PBX (interpreted as a server) having an interface (see figure 2B below) with a home location registry.

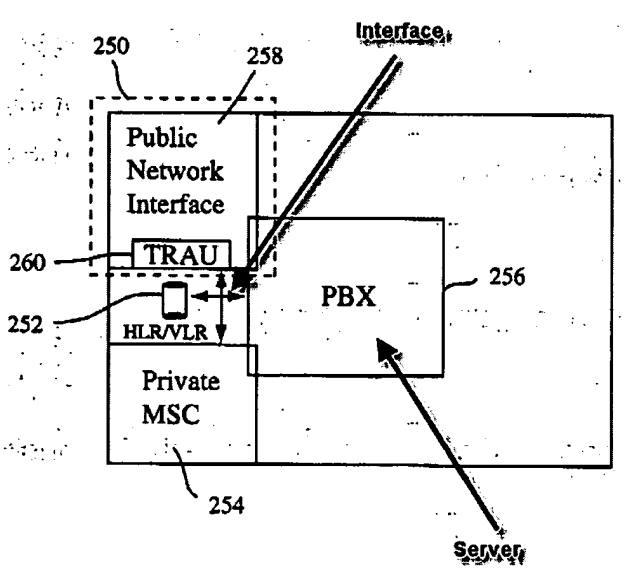

Fig. 2B

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate in Tso's system/method of ***server keeping track of the clients,*** with Lu's suggested teaching of ***using an interface with a home location registry for such tracking***. The motivation is that (as suggested by Lu, column7, lines 1-10) Registry serves, among others, to keep track of MS units that are authorized to

use the resources of the cellular network, the subscriber data such as names, unique identification information such as is kept in Subscriber Identification Module (SIM) for 9GSM handsets, telephone numbers associated with the MS units, and the like. Subscriber information is kept track of because cellular network must keep track of the MS units controlled by it as well as the subscribers on its network. Further motivation is that known work (i.e. ***server having an interface with a home location registry***) in one field of endeavor (i.e. Lu prior art) may prompt variations of it for use in either the same field or a different one (i.e. Tso prior art) based on design incentives (i.e. Registry serves, among others, to keep track of MS units that are authorized to use the resources of the cellular network, the subscriber data such as names, unique identification information such as is kept in Subscriber Identification Module (SIM) for GSM handsets, telephone numbers associated with the MS units, and the like. Subscriber information is kept track of because cellular network must keep track of the MS units controlled by it as well as the subscribers on its network) or other market forces/market place incentives if the variations are predictable to one of ordinary skill in the art.

In regards to claim 2, Tso teaches ***receiving, at the base station, a request message wirelessly transmitted from the wireless communication device, the request message including at least a portion of the generated message*** (column 4 lines 15-19, column 8 lines 48-54, in FIG. 2, client A 23, which is located in a geographical area served by base station transceiver A 46, communicates with server A 17 through the use of base station transceiver A 46, base station controller A 44, mobile

switching center A 42, and short message service center 41. After an InfoBite containing one or more resource identifiers is transmitted to a user, if the user wishes to retrieve an article or item identified by a resource identifier, a request is made by the client to the InfoCast server to send the fully qualified URL associated with the resource identifier to the client. The request is made by the client transmitting the resource identifier to the InfoCast server).

In regards to claim 3, Tso teaches ***transmitting, from the second system, to the wireless communication device, the information associated with the information identifier in response to receiving the request message*** (After an InfoBite containing one or more resource identifiers is transmitted to a user, if the user wishes to retrieve an article or item identified by a resource identifier, a request is made by the client to the InfoCast server to send the fully qualified URL associated with the resource identifier to the client. The request is made by the client transmitting the resource identifier to the InfoCast server. The InfoCast server will either transmit the fully qualified URL associated with the resource identifier, or, bandwidth permitting, transmit the story or item to the client", 8:48-57. "After receiving the fully qualified URL, the client can then initiate an InfoAction to retrieve the item identified by the fully qualified URL. In the preferred embodiment, large files and resources are not stored locally by InfoCast servers but are only accessible by using the fully qualified URL to retrieve the resource at the original storage location of the resource", 8:58-64. "For example, in the case above where InfoBites containing advertisements from vegetarian eating establishments are sent to the user who is vegetarian, the InfoBites can contain

InfoActions for the user to retrieve menus, nutritional information for each item in the menus and addresses of the restaurants, in addition to InfoActions which allow the user to make reservations at the restaurants. In the preferred embodiment, as described above, the InfoAction would contain data allowing a user to: (1) retrieve one or more URLs referenced by the resource identifiers from schedule/resource controller 61; (2) send information; or (3) execute scripts either locally on client A 23 or remotely on server A 17. Thus, client A 23 can retrieve an HTML document containing menu information, or, an HTML document containing a form with which reservation information can be submitted, either normally or securely", 16:3-18.

In regards to claim 4, Tso teaches ***in a communication system*** (System in figure 1) ***that includes a first system*** (figure 1, InfoCast Server 17), ***a second system*** (figure 1, any one of Content Provider) ***located remotely from the first system, a base station*** (Within network B, element 21 of figure 1, any one of the base station controllers 44 or 45 of figure 2), ***and a wireless communication device*** (figure 1 or 2, Client A or B, i.e. elements 23 or 25), ***a method comprising: receiving, at the second system*** (In the preferred embodiment of the invention, content provider A 5, content provider B 7, content provider C 9 and content provider D 11 would use InfoFeed interface 57 to update the databases contained in server A 17 through the use of ODBC API 59. Access to InfoFeed interface 57 is obtained either through the use of network A 3; such as the case for content provider A 5, content provider B 7, content provider C 9 and content provider D 11; a modem bank, such as the case for content provider E 6; a satellite link, such as the case for content provider F 8; a direct connection, such as the

case for content provider G 10; or any other communication infrastructure allowing the receiving and transmitting of data. Thus, in the preferred embodiment, InfoFeed interface 57 contains an interface for the internet, modems, satellite transceivers, and direct connections. InfoFeed interface 57 enables content providers to update data and resources on server A 17 for specific subscriber locations and times. Thus, content providers may feed information only to those InfoCast servers matching a specIhc criterion. For example, content provider A 5, while sending news events which are global in nature to the InfoCast server in California, can also limit the type of weather information that is sent to the California InfoCast server to weather conditions which are local to California. InfoFeed interface 57 can also actively contact a content provider over network A 3 without initial contact from the content provider so as to "search" the internet for new content which might be interesting to users of the system", 6:48- 7:9), ***a message intended for a user of the wireless communication device*** (The invention provides a method and apparatus for automatically distributing electronic information to a targeted group of users", 2:40-42. Referring to FIG. 4 and to FIG. 8, in Block 251, reporter 91 of server A 17 has received InfoBite 93 from content provider E 6 and processes InfoBite 93 by storing InfoBite 93 and the associated resources 95 in InfoBite database 50 and Server Resource database 55 of server A 17. Server A 17 then processes InfoBite 93 using the filtering process described above in FIG. 7 and transmits InfoBite 93 to each 'interested' client. In this example, server A 17 transmits InfoBite 93 to client A 23", 24:34-42); ***storing, at the second system, the message*** (For example, InfoBite 93 contains a news story with the title 'Global Warming Warning'

and has associated resources 95. Associated resources 95 may include a full story text, a full story audio, a video clip, and an URL to a related story. In the preferred embodiment each of the resources in associated resources 95 is referenced by a fully qualified URL and thus, just the URLs may be stored in server resource database 55. The resources can be stored in server content database 51 (not shown in Fig. 4), or outside server A 17 in content provider E 6, (13:16-25). In addition, InfoFeed interface 57 can also process electronic mail (e-mail) messages directed at a set of users in the territory served by server A 17 and create one or more InfoBites to be transmitted to the users. In cases where there are one or more attachments to the e-mail message, InfoFeed interface 57 would process those attachments in the manner described for files above. Thus, any attachments to the e-mail message would be stored in server content database 51 and each assigned a resource identifier to be stored in server resource database 55. Similar to other resources, attachments would be stored in server A 17 until they are requested by client A23. InfoFeed interface 57 would allow content providers to create InfoBites by sending e-mail messages with attachments, (10:27-40)***; transmitting, from the second system*** (column 13, lines 9-15, In FIG. 4, content provider E 6 is a commercial service, such as CNN@Work.TM., which provides a real time news service to reporter 91. Reporter 91 is configured to receive the InfoCast information provided by content provider E 6 and store InfoBites and the resources related to each InfoBite in InfoBite database 50 and Server Resource database 55 of server A 17)***, information regarding the message to the first system, the information including a system identifier*** (i.e. resource identifier, s described

above, each InfoBite also contains a set of resource identifiers (i.e. storage location). In the preferred embodiment, each resource identifier is a bit pattern generated by InfoFeed Interface 57 for each URL to be included in an InfoBite", 8:1-4) ***that is associated with the second system and a message identifier*** (i.e. interpreted as any one of Title, Topic, Summary) ***associated with the message*** (column 13 lines 16-25, For example, InfoBite 93 contains a news story with the title "Global Warming Warning" and has associated resources 95. Associated resources 95 may include a full story text, a full story audio, a video clip, and an URL to a related story. In the preferred embodiment, each of the resources in associated resources 95 is referenced by a fully qualified URL and thus, just the URLs may be stored in server resource database 55. The resources can be stored in server content database 51 (not shown in FIG. 4) or stored outside server A 17 in content provider E 6)***, wherein the first system uses the base station to transmit at least a portion of the information to the wireless communication device*** (column 3 lines 56-67, column 7 lines 30-32, column 14, lines 16-21, In Block 107, Base station controller A 44 is interfaced to a base station transceiver A 46 and a base station transceiver B 47 while base station controller B 45 interfaces with a base station transceiver C 48. It is to be noted that each short message service center can serve one or more mobile switching centers, which in turn can support one or more base station controllers. Moreover, each base station controller is interfaced to one or more base station transceivers. The GSM system provides cell-level location information of all devices in the system and also allows the sending of SMS broadcasts messages to all devices. For each item contained in an

InfoCast, InfoFeed interface 57 will create an "InfoBite," which can be sent to a user in lieu of the full item Assuming that there is at least one InfoBite that matches the time of day and location of user criteria, schedule/resource controller 61 will send that InfoBite to client A 23 through the use of messaging interface 67. This InfoBite message is sent as an SMS message over the GSM system of network B 21)***; and receiving, at the second system, a request message transmitted from the wireless communication device, the request message that includes at least a portion of the information, wherein the request message was wirelessly transmitted from the wireless communication device to a base station*** (column 4 lines 15-19, column 8 lines 48-54, in FIG. 2, client A 23, which is located in a geographical area served by base station transceiver A 46, communicates with server A 17 through the use of base station transceiver A 46, base station controller A 44, mobile switching center A 42, and short message service center 41. After an InfoBite containing one or more resource identifiers is transmitted to a user, if the user wishes to retrieve an article or item identified by a resource identifier, a request is made by the client to the InfoCast server to send the fully qualified URL associated with the resource identifier to the client. The request is made by the client transmitting the resource identifier to the InfoCast server).

Tso teaches server A (element 17) being connected to Base Station Controllers via SMSC and MSC and in column 18 lines 28-34, Tso teaches the old InfoCast server requests the current physical location of client A 23 from the MSC serving the area in which client A 23 is located but does not explicitly teach ***server having an interface with a home location registry***.

Lu in the same or similar field of endeavor teaches in a PBX (interpreted as a server) having an interface (see figure 2B below) with a home location registry.

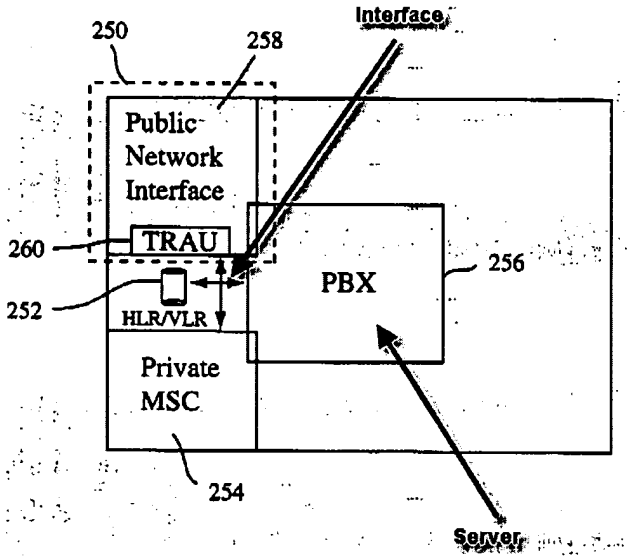

Fig. 2B

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate in Tso's system/method of ***server keeping track of the clients,*** with Lu's suggested teaching of ***using an interface with a home location registry for such tracking***. The motivation is that (as suggested by Lu, column7, lines 1-10) Registry serves, among others, to keep track of MS units that are authorized to use the resources of the cellular network, the subscriber data such as names, unique identification information such as is kept in Subscriber Identification Module (SIM) for GSM handsets, telephone numbers associated with the MS units, and the like. Subscriber information is kept track of because cellular network must keep track of the MS units controlled by it as well as the subscribers on its network. Further motivation is

that known work (i.e. ***server having an interface with a home location registry***) in one field of endeavor (i.e. Lu prior art) may prompt variations of it for use in either the same field or a different one (i.e. Tso prior art) based on design incentives (i.e. Registry serves, among others, to keep track of MS units that are authorized to use the resources of the cellular network, the subscriber data such as names, unique identification information such as is kept in Subscriber Identification Module (SIM) for GSM handsets, telephone numbers associated with the MS units, and the like. Subscriber information is kept track of because cellular network must keep track of the MS units controlled by it as well as the subscribers on its network) or other market forces/market place incentives if the variations are predictable to one of ordinary skill in the art.

In regards to claim 5, Tso teaches ***request message further includes an action identifier identifying an action to be performed on the message*** (In Block 253, after the user of client A 23 decides to retrieve the "Full Story Audio" resource, client A 23 sends an InfoAction (i.e. ***action identifier identifying an action***) to request the download of the InfoCast resource referenced by the URL identified by resource number "FFFFFF" from server A 17 .... In an alternative embodiment, where the resource requested is contained in server content database 51 of server A 17, server A 17 can send the resource directly to client A 23 instead of sending the fully qualified URL", 24:55-66. In the preferred embodiment, content provider A 5 is a hyper-text transport protocol (HTTP) server that can provide a real-time news service to the various computer systems connected to network A 3 via hyper-text markup language

(H1ML) documents. Content provider B 7 is a file transfer protocol (FTP) server which allows clients to access files located on the server. Content provider C 9 is another HTTP server maintained by a business and configured to be able to process electronic transactions. Content provider D 11 is an HTTP server configured to provide advertising information via HTML documents", 3:8-18. After receiving the fully qualified URL, the client can then initiate an InfoAction (i.e. ***action identifier identifying an action***) to retrieve the item identified by the fully qualified URL. In the preferred embodiment, large files and resources are not stored locally by InfoCast servers but are only accessible by using the fully qualified URL (i.e. ***action identifier identifying an action***) to retrieve the resource at the original storage location of the resource, (8:58-64)).

In regards to claim 6, Tso teaches ***second system performing the action on the message*** (In Block 259, if it has been determined that the resource requested is small enough to send over the messaging bandwidth, server A 17 will initiate a transfer for the "Full Story Audio" resource over the messaging bandwidth to client A 23 and client A 23 will store the resource in client content database 72, 25:8-13).

In regards to claim 9, Tso teaches a ***method that communicates data from a content provide***r (figure 1, any one of Content Provider) ***through a mobile radiotelephone network*** (figure 1, network B 21 and satellite network connecting Content Provider F 8 to server A 17) ***to a wireless communication device*** (figure 1 or 2, Client A or B, i.e. elements 23 or 25), ***utilizing an content notification system*** (Schedule/Resource Controller 61 within Server A as shown in figure 3) ***having an interface*** (Messaging interface 67) ***comprising: the content provider initiating***

communication of data intended for the wireless communication device (column 3, lines 44-46, column 6 lines 49-63, Content provider F 8 is a service providing a video/audio feed to server A 17 through the use of a satellite communications network. Content provider A 5, content provider B 7, content provider C 9 and content provider D 11 would use InfoFeed interface 57 to update (interpreted as notification) the databases contained in server A 17 through the use of ODBC API 59. Access to InfoFeed interface 57 is obtained either through the use of network A 3; such as the case for content provider A 5, content provider B 7, content provider C 9 and content provider D 11; a modem bank, such as the case for content provider E 6; a satellite link, such as the case for content provider F 8; a direct connection, such as the case for content provider G 10; or any other communication infrastructure allowing the receiving and transmitting of data (i.e. notification). Thus, in the preferred embodiment, InfoFeed interface 57 contains an interface for the internet, modems, satellite transceivers, and direct connections), ***the data including an information identifier that is associated with information stored by the content provider and identifies the location of the stored information*** (i.e. resource identifier, s described above, each InfoBite also contains a set of resource identifiers (i.e. storage location). In the preferred embodiment, each resource identifier is a bit pattern generated by InfoFeed Interface 57 for each URL to be included in an InfoBite", 8:1-4), ***wherein the information is not included in the data and is not stored in the wireless communication device*** (column 8 lines 48-64, After an InfoBite containing one or more resource identifiers is transmitted to a user, if the user wishes to retrieve an article or item identified by a

resource identifier (i.e. satisfying the limitation information not stored locally), a request is made by the client to the InfoCast server to send the fully qualified URL associated with the resource identifier to the client. After receiving the fully qualified URL, the client can then initiate an InfoAction to retrieve the item identified by the fully qualified URL. In the preferred embodiment, large files and resources are not stored locally by InfoCast servers but are only accessible by using the fully qualified URL (i.e. satisfying the limitation information not stored locally) to retrieve the resource at the original storage location of the resource); ***the content provider causing the content notification system to: process the data into a message suitable for transmission to the wireless communication device*** (For each item contained in an InfoCast, InfoFeed interface 57 will create an 'InfoBite,' which can be sent to a user in lieu of the full item, as described below. Each InfoBite consists of a title, summary information for the associated item in the InfoCast, such as keywords, category names or titles; and data necessary for a user to: (1) obtain a corresponding item of information from which an InfoBite is generated; (2) obtain a cross reference to an item of information; or, (3) perform certain 'InfoActions,' as described below (7:30-39). In situations where summary information is not provided by a content provider, InfoFeed interface 57 will generate summary information as a portion of text from the beginning of a text item if the item is a text file, or a title if the item is a graphics file, an audio file, or a series of video frames. It is to be noted that summary information for different types of files can be placed in a single InfoBite. For example, summary information for a video/audio segment will consist of both a title for the video segment and a title for the segment of

audio data. In addition, the resource identifiers for the video and audio data will be included, as described below, so that a client may receive those resources (7:56-67). For each item contained in an InfoCast, InfoFeed interface 57 will create an 'InfoBite,' which can be sent to a user in lieu of the full item, as described below (7:41-44)), ***which message includes the information identifier*** (i.e. interpreted as any one of Title, Topic, Summary), ***and transmit the message to the wireless communication device*** (column 3 lines 56-67, column 7 lines 30-32, column 14, lines 16-21, In Block 107, Base station controller A 44 is interfaced to a base station transceiver A 46 and a base station transceiver B 47 while base station controller B 45 interfaces with a base station transceiver C 48. It is to be noted that each short message service center can serve one or more mobile switching centers, which in turn can support one or more base station controllers. Moreover, each base station controller is interfaced to one or more base station transceivers. The GSM system provides cell-level location information of all devices in the system and also allows the sending of SMS broadcasts messages to all devices. For each item contained in an InfoCast, InfoFeed interface 57 will create an "InfoBite," which can be sent to a user in lieu of the full item Assuming that there is at least one InfoBite that matches the time of day and location of user criteria, schedule/resource controller 61 will send that InfoBite to client A 23 through the use of messaging interface 67. This InfoBite message is sent as an SMS message over the GSM system of network B 21); ***and the content provider receiving a request message that is wirelessly transmitted from the wireless communication device over the mobile radiotelephone network as a reply to the message, the request***

message including at least a portion of the information identifier (Tso discloses that the content provider receives a request message that is wirelessly transmitted from the wireless communication device (e.g., Client A 23, Client B 25) over the mobile radiotelephone network (e.g., Network B 21) as a reply to the message, the request message including at least a portion of the information identifier (e.g., a URL). For example, Tso discloses that a user of the wireless communication device requests the download of the identified resource using a URL identifier received from the InfoCast server: After receiving the fully qualified URL, the client can then initiate an InfoAction to retrieve the item identified by the fully qualified URL. In the preferred embodiment, large files and resources are not stored locally by InfoCast servers but are only accessible by using the fully qualified URL to retrieve the resource at the original storage location of the resource (8:58-64).

Tso teaches server A (element 17) being connected to Base Station Controllers via SMSC and MSC via interface and in column 18 lines 28-34, Tso teaches the old InfoCast server requests the current physical location of client A 23 from the MSC serving the area in which client A 23 is located but does not explicitly teach ***having an interface with a home location registry***.

Lu in the same or similar field of endeavor teaches having an interface (see figure 2B below) with a home location registry.

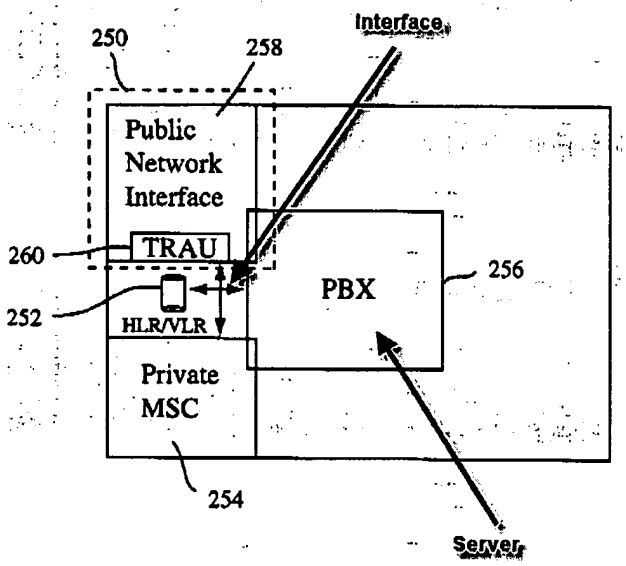

Fig. 2B

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate in Tso's system/method of ***server keeping track of the clients,*** with Lu's suggested teaching of ***using an interface with a home location registry for such tracking***. The motivation is that (as suggested by Lu, column7, lines 1-10) Registry serves, among others, to keep track of MS units that are authorized to use the resources of the cellular network, the subscriber data such as names, unique identification information such as is kept in Subscriber Identification Module (SIM) for GSM handsets, telephone numbers associated with the MS units, and the like. Subscriber information is kept track of because cellular network must keep track of the MS units controlled by it as well as the subscribers on its network. Further motivation is that known work (i.e. ***having an interface with a home location registry***) in one field of endeavor (i.e. Lu prior art) may prompt variations of it for use in either the same field

or a different one (i.e. Tso prior art) based on design incentives (i.e. Registry serves, among others, to keep track of MS units that are authorized to use the resources of the cellular network, the subscriber data such as names, unique identification information such as is kept in Subscriber Identification Module (SIM) for GSM handsets, telephone numbers associated with the MS units, and the like. Subscriber information is kept track of because cellular network must keep track of the MS units controlled by it as well as the subscribers on its network) or other market forces/market place incentives if the variations are predictable to one of ordinary skill in the art.

In regards to claim 10, Tso teaches ***content provider communicating the information associated with the information identifier and intended for the wireless communication device in response to the content provider receiving the request message*** (After an InfoBite containing one or more resource identifiers is transmitted to a user, if the user wishes to retrieve an article or item identified by a resource identifier, a request is made by the client to the InfoCast server to send the fully qualified URL associated with the resource identifier to the client. The request is made by the client transmitting the resource identifier to the InfoCast server. The InfoCast server will either transmit the fully qualified URL associated with the resource identifier, or, bandwidth permitting, transmit the story or item to the client (8:48-57). In addition, Tso discloses that the information is retrieved from the content provider (e.g., Server A 17; Content Providers 6, 8, 10) by using a cellular data call using well-understood prior art protocols such as FTP or HTTP file transfer: Back channel interface 81 in the preferred embodiment is a cellular data call. Thus when application 83 in the

above example needs to access content provider A 5 to perform an FFP file transfer, application A 83 will use back channel 81 to dial into an internet service provider using a protocol such as the point to point protocol (PPP) or the serial line internet protocol (SLIP), providing client A 23 with access to the internet, and then perform the FFP file transfer over the internet (12:55-64).

In regards to claim 11, Tso teaches ***content provider causing the mobile radio telephone network to rely the information identifier to a plurality of wireless communication devices*** (In Block 203, after the InfoBite is received, it is filtered for the keywords of users A, B and C. For each user, a percentage chance that the Info Bite would be interesting to the user is calculated (22:10-17). Tso further discloses that InfoBites can also be sent to users that have not previously expressed an interest: In Block 205, after the InfoBite is processed, a random percentage between 0% and 100% is generated for each user to provide a chance for the InfoBite to be sent to users who were not sent the InfoBite during the operation of Block 203 (22:59-62).

In regards to claim 12, Tso teaches ***information identifier identifies the location of the stored information using a system identifier*** (column 8 lines 1-56, As described above, each InfoBite also contains a set of resource identifiers. In the preferred embodiment, each resource identifier is a bit pattern generated by InfoFeed Interface 57 for each URL to be included in an InfoBite. Resource identifiers are especially useful in low-bandwidth implementations--such as the short message services provided by a cellular telephone network, e.g., network B 21, or a two-way paging system--as bandwidth is saved by transmitting only a small bit pattern resource

identifier instead of a fully qualified URL for a resource or the resource itself. After an InfoBite containing one or more resource identifiers is transmitted to a user, if the user wishes to retrieve an article or item identified by a resource identifier, a request is made by the client to the InfoCast server to send the fully qualified URL associated with the resource identifier to the client. The request is made by the client transmitting the resource identifier to the InfoCast server. The InfoCast server will either transmit the fully qualified URL associated with the resource identifier, or, bandwidth permitting, transmit the story or item to the client).

In regards to claim 13, Tso teaches ***system identifier is associated with the content provider*** (Tso discloses that the system identifier is associated with the content provider. For example, as noted previously, Tso discloses the use of an identifier such as a URL to identify the location where requested information is stored, and that the content provider can be an HTTP or FTP server. In the preferred embodiment, content provider A 5 is a hyper-text transport protocol (HTTP) server that can provide a real-time news service to the various computer systems connected to network A 3 via hyper-text markup language (HTML) documents. Content provider B 7 is a file transfer protocol (FFP) server which allows clients to access files located on the server. Content provider 9 is another HTTP server maintained by a business and configured to be able to process electronic transactions. Content provider D 11 is an HTI'P server configured to provide advertising information via HTML documents (3:8-38).

In regards to claim 15, Tso teaches ***mobile radiotelephone network includes at least short message service capabilities*** (column 3 lines 49-54, FIG. 2 illustrates the preferred embodiment of network B 21, which represents a cellular telephone network such as that defined by the Global System for Mobile (GSM) communications standards. In network B 21, a short message service (SMS) center 41 is connected to a mobile switching center A 42 and a mobile switching center B 43).

In regards to claim 16, Tso teaches ***mobile radiotelephone network includes at least a global system for mobile communications (GSM) system*** (column 3 lines 49-54, FIG. 2 illustrates the preferred embodiment of network B 21, which represents a cellular telephone network such as that defined by the Global System for Mobile (GSM) communications standards. In network B 21, a short message service (SMS) center 41 is connected to a mobile switching center A 42 and a mobile switching center B 43).

In regards to claim 18, Tso teaches ***wireless communication device is capable of communicating via multiple types*** (broadly interpreted) ***of wireless networks*** (For other wireless networks, such as packet radio networks and paging networks, the methods discussed above can be used to perform location functions (17:15-17)).

In regards to claim 19, Tso teaches ***content provider includes a system that stores data intended for delivery to the wireless communication device*** (column 3, lines 8-34, In the preferred embodiment, content provider A 5 is a hyper-text transport protocol (HTTP) server that can provide a real-time news service to the various computer systems connected to network A 3 via hyper-text markup language (HTML)

documents. Content provider B 7 is a file transfer protocol (FTP) server which allows clients to access files located on the server. Content provider C 9 is another HTTP server maintained by a business and configured to be able to process electronic transactions. Content provider D 11 is an HTTP server configured to provide advertising information via HTML documents. Alternatively, content providers A 5, B 7, C 9 and D 11 can be servers offering other types of information using different protocols. For instance, content provider A 5, instead of being an HTTP server configured for delivering news, can be a server for providing wide area information services (WAIS). Other types of servers that can be located on network A 3 in addition to the servers mentioned above can include Gopher servers, Archie servers, and other servers providing other multimedia data. Moreover, servers providing WWW "searching" services--i.e., servers that search WWW sites and retrieve information matching certain criteria from those WWW sites--and USENET search engines--i.e., servers that search USENET news groups--can also interface with an InfoCast server to provide a constant stream of new information).

In regards to claim 20, Tso teaches ***information includes at least one of the group consisting of: (1) voice*** (For example, InfoBite 93 contains a news story with the title 'Global Warming Warning' and has associated resources 95. Associated resources 95 mayinclude a full story text, a full story audio, a video clip, and an URL to a related story. In the preferred embodiment each of the resources in associated resources 95 is referenced by a fully qualified URL and thus, just the URLs may be stored in server resource database 55. The resources can be stored in server content

database 51 (not shown in FIG. 4), or outside server A 17 in content provider E 6 (13:16-25)), ***(2) email*** (In addition, InfoFeed interface 57 can also process electronic mail (e-mail) messages directed at a set of users in the territory served by server A 17 and create one or more InfoBites to be transmitted to the users. In cases where there are one or more attachments to the e-mail message, InfoFeed interface 57 would process those attachments in the manner described for files above. Thus, any attachments to the e-mail message would be stored in server content database 51 and each assigned a resource identifier to be stored in server resource database 55. Similar to other resources, attachments would be stored in server A 17 until they are requested by client A23. InfoFeed interface 57 would allow content providers to create InfoBites by sending e-mail messages with attachments (10:27-40), **(3) audio** (t is also to be noted that in cases where an item received by server A 17 is a non-text element such as a graphic, a sound sample or a video segment, InfoFeed interface 57 can create summary file of a smaller graphic that is a "thumbnail" version of the graphic, a compressed or limited portion of the audio sample, or a series of frames from the video segment, respectively, store the created summary file into server content database 51, assign a resource identifier for accessing the created summary file, and include the resource identifier for the created summary file inside the InfoBite generated by InfoFeed interface 57 for, the item along with any textual summary information to be included in the InfoBite. Client A 23 can then have the option of retrieving a non-textual summary, or clip, of the item before retrieving the complete item. For configurations where sufficient bandwidth exist, users are sent the complete item of information upon

which an InfoBite is based (10:10-26), ***(4) video*** (For example, InfoBite 93 contains a news story with the title 'Global Warming Warning' and has associated resources 95. Associated resources 95 may include a full story text, a full story audio, a video clip, and an URL to a related story. In the preferred embodiment each of the resources in associated resources 95 is referenced by a fully qualified URL and thus, just the URLs may be stored in server resource database 55. The resources can be stored in server content database 51 (not shown in FIG. 4), or outside server A 17 in content provider E 6 (13:16-25), ***(5) graphics*** (It is also to be noted that in cases where an item received by server A 17 is a non-text element such as a graphic, a sound sample or a video segment, InfoFeed interface 57 can create summary file of a smaller graphic that is a "thumbnail" version of the graphic, a compressed or limited portion of the audio sample, or a series of frames from the video segment, respectively, store the created summary file into server content database 51, assign a resource identifier for accessing the created summary file, and include the resource identifier for the created summary file inside the InfoBite generated by InfoFeed interface 57 for, the item along with any textual summary information to be included in the InfoBite. Client A 23 can then have the option of retrieving a non-textual summary, or clip, of the item before retrieving the complete item. For configurations where sufficient bandwidth exist, users are sent the complete item of information upon which an InfoBite is based (10:10-26), ***(6) games*** (Tso discloses that the information can include games as, for example, an application: Another example is where an InfoBite that announces the availability of a demonstration program at an F-FP site such as content provider B 7 contains a

resource identifier to allow the user to initiate an FTP transfer by invoking an InfoAction. Thus, in the preferred embodiment, after retrieval of the fully qualified URL associated with the resource identifier either locally or from client A 17, InfoCast browser 89 calls application A 83 through the use of InfoAction API 87 to communicate with content provider B 7 through the use of back-channel interface 81. If InfoCast browser 89 is capable of acting as an FTP client, InfoCast browser 89 can use back channel interface 81 to perform the FTP file transfer over network B 21 by contacting an internet service provider. Alternatively, application A 83, instead of acting as a stand-alone application, can be an external code plug-in which InfoCast browser 89 can also execute through the use of InfoAction API 87 (25:25-40). Tso discloses transmission of application information, as described above. One of ordinary skill would recognize that a game is a type of application), ***and (7) text*** (For example, InfoBite 93 contains a news story with the title 'Global Warming Warning' and has associated resources 95. Associated resources 95 may include a full story text, a full story audio, a video clip, and an URL to a related story. In the preferred embodiment each of the resources in associated resources 95 is referenced by a fully qualified URL and thus, just the URLs may be stored in server resource database 55. The resources can be stored in server content database 51 (not shown in FIG. 4), or outside server A 17 in content provider E 6 (13:16-25).

In regards to claim 21, Tso teaches ***first system accesses MSC to retrieve information associated with the wireless communication device*** (In Block 123, after the old InfoCast server receives the RFC from client A 23, the old InfoCast server

requests the current physical location of client A 23 from the MSC serving the area in which client A 23 is located. In this case, as seen in FIG. 2, client A 23 is located in the area served by MSC A 42 and, thus, in Block 125, MSC A 42 returns the physical location of client A 23 (18:28-34)) but does not teach using ***Home Location Registry for location tracking***.

Lu in the same or similar field of endeavor teaches using home location registry for location tracking:

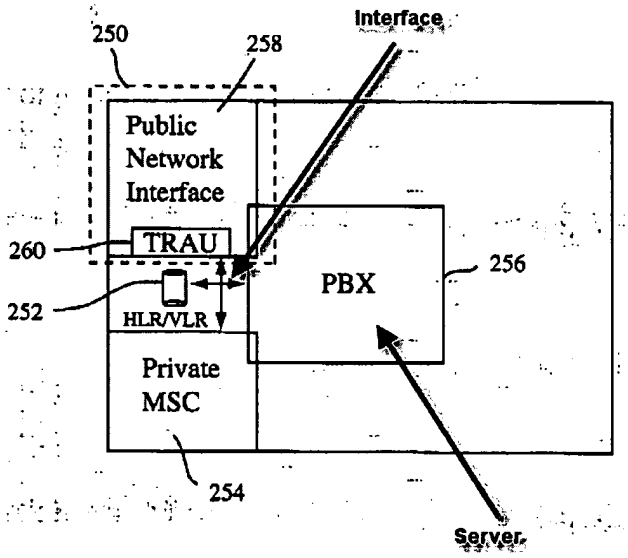

Fig. 2B

FIG. 2B shows in a symbolic format cPBX subsystem 206 of FIG. 2A. Within cPBX subsystem 206, shown are a Gateway MSC (GMSC) block 250, a registry 252 which contains both the home location registry (HLR) and the visitor location registry (VLR registry), a private MSC block 254 and a cPBX block 256 (6:31-36). See also, at

6:62 - 7:10; 10:46-52; 11:6-12, discloses that the HLR tracks the physical location of mobile stations.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate in Tso's system/method of ***server keeping track of the clients,*** with Lu's suggested teaching of ***using a home location registry for such tracking***. The motivation is that (as suggested by Lu, column7, lines 1-10) Registry serves, among others, to keep track of MS units that are authorized to use the resources of the cellular network, the subscriber data such as names, unique identification information such as is kept in Subscriber Identification Module (SIM) for GSM handsets, telephone numbers associated with the MS units, and the like. Subscriber information is kept track of because cellular network must keep track of the MS units controlled by it as well as the subscribers on its network. Further motivation is that known work (i.e. ***server keeping track of the clients with a home location registry***) in one field of endeavor (i.e. Lu prior art) may prompt variations of it for use in either the same field or a different one (i.e. Tso prior art) based on design incentives (i.e. Registry serves, among others, to keep track of MS units that are authorized to use the resources of the cellular network, the subscriber data such as names, unique identification information such as is kept in Subscriber Identification Module (SIM) for GSM handsets, telephone numbers associated with the MS units, and the like. Subscriber information is kept track of because cellular network must keep track of the MS units controlled by it as well as the subscribers on its network) or other market

forces/market place incentives if the variations are predictable to one of ordinary skill in the art.

In regards to claim 22, Tso teaches ***information retrieved comprises the wireless network location of the wireless communication device*** (In Block 123, after the old InfoCast server receives the RFC from client A 23, the old InfoCast server requests the current physical location of client A 23 from the MSC serving the area in which client A 23 is located. In this case, as seen in FIG. 2, client A 23 is located in the area served by MSC A 42 and, thus, in Block 125, MSC A 42 returns the physical location of client A 23 (18:28-34)).

In regards to claim 23, Tso teaches ***information transmission bypasses the first system*** ([W]here an InfoBite that announces the availability of a demonstration program at an FTP site such as content provider B 7 contains a resource identifier to allow the user to initiate an FTP transfer by invoking an InfoAction[,]... after retrieval of the fully qualified URL associated with the resource identifier either locally or from client A 17, InfoCast browser 89 calls application A 83 through the use of InfoAction API 87 to communicate with content provider B 7 through the use of back-channel interface 81. If InfoCast browser 89 is capable of acting as an FFP client, InfoCast browser 89 can use back channel interface 81 to perform the FFP file transfer over network B 21 by contacting an internet service provider (25:25-37). Back channel interface 81 in the preferred embodiment is a cellular data call. Thus, when application A 83 in the above example needs to access content provider A 5 to perform an FTP file transfer, application A 83 will use back channel interface 81 to dial into an internet service

provider using a protocol such as the point to point protocol (PPP) or the serial line internet protocol (SLIP), providing client A 23 with access to the internet, and then perform the FTP file transfer over the internet. Alternatively, back channel interface 81 can be networking hardware to allow access by application A 83, application B 85 and InfoCast browser 89 to a TCP/IP network in the case where client A 23 is located on a local area network implementing TCP/IP. For example, the back channel interface in client C 29 would be networking hardware to allow client C 29 to communicate over local area network 27 (12:55-13:3).

In regards to claim 24, Tso teaches ***first system accesses MSC to retrieve information associated with the wireless communication device*** (In Block 123, after the old InfoCast server receives the RFC from client A 23, the old InfoCast server requests the current physical location of client A 23 from the MSC serving the area in which client A 23 is located. In this case, as seen in FIG. 2, client A 23 is located in the area served by MSC A 42 and, thus, in Block 125, MSC A 42 returns the physical location of client A 23 (18:28-34)) but does not teach using ***Home Location Registry for location tracking***.

Lu in the same or similar field of endeavor teaches using home location registry for location tracking:

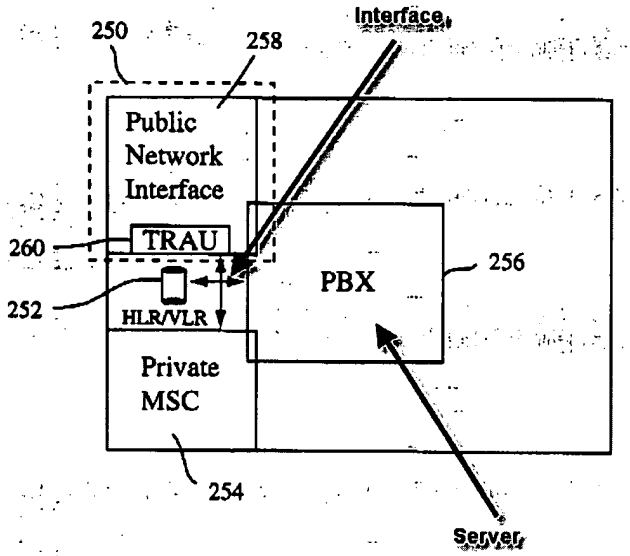

Fig. 2B

FIG. 2B shows in a symbolic format cPBX subsystem 206 of FIG. 2A. Within cPBX subsystem 206, shown are a Gateway MSC (GMSC) block 250, a registry 252 which contains both the home location registry (HLR) and the visitor location registry-(VLR registry), a private MSC block 254 and a cPBX block 256 (6:31-36). See also, at 6:62 - 7:10; 10:46-52; 11:6-12, discloses that the HLR tracks the physical location of mobile stations.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate in Tso's system/method of ***server keeping track of the clients,*** with Lu's suggested teaching of ***using a home location registry for such tracking***. The motivation is that (as suggested by Lu, column7, lines 1-10) Registry serves, among others, to keep track of MS units that are authorized to use the resources of the cellular network, the subscriber data such as names, unique

identification information such as is kept in Subscriber Identification Module (SIM) for GSM handsets, telephone numbers associated with the MS units, and the like. Subscriber information is kept track of because cellular network must keep track of the MS units controlled by it as well as the subscribers on its network. Further motivation is that known work (i.e. ***server keeping track of the clients with a home location registry***) in one field of endeavor (i.e. Lu prior art) may prompt variations of it for use in either the same field or a different one (i.e. Tso prior art) based on design incentives (i.e. Registry serves, among others, to keep track of MS units that are authorized to use the resources of the cellular network, the subscriber data such as names, unique identification information such as is kept in Subscriber Identification Module (SIM) for GSM handsets, telephone numbers associated with the MS units, and the like. Subscriber information is kept track of because cellular network must keep track of the MS units controlled by it as well as the subscribers on its network) or other market forces/market place incentives if the variations are predictable to one of ordinary skill in the art.

In regards to claim 25, Tso teaches ***information retrieved comprises the wireless network location of the wireless communication device*** (In Block 123, after the old InfoCast server receives the RFC from client A 23, the old InfoCast server requests the current physical location of client A 23 from the MSC serving the area in which client A 23 is located. In this case, as seen in FIG. 2, client A 23 is located in the area served by MSC A 42 and, thus, in Block 125, MSC A 42 returns the physical location of client A 23 (18:28-34)).

In regards to claim 26, Tso teaches ***action is performed without having sent the message to the wireless communication device*** (column 15 lines 40-50, In Block 115, after schedule/resource controller 61 has received the logs of the InfoActions performed by the user, schedule/resource controller 61 will update subscriber database 53. This update will revise the user profile contained as records in subscriber database 53 and, if server A 17 is not the home InfoCast server of client A 23, then server A 17 will send a message to the home InfoCast server of client A 23 to update the home InfoCast server's subscriber database).

In regards to claim 27, Tso teaches ***message being sent to the wireless communication device by the second system wherein the message bypasses the first system*** ([W]here an InfoBite that announces the availability of a demonstration program at an FTP site such as content provider B 7 contains a resource identifier to allow the user to initiate an FTP transfer by invoking an InfoAction[,]... after retrieval of the fully qualified URL associated with the resource identifier either locally or from client A 17, InfoCast browser 89 calls application A 83 through the use of InfoAction API 87 to communicate with content provider B 7 through the use of back-channel interface 81. If InfoCast browser 89 is capable of acting as an FFP client, InfoCast browser 89 can use back channel interface 81 to perform the FFP file transfer over network B 21 by contacting an internet service provider (25:25-37). Back channel interface 81 in the preferred embodiment is a cellular data call. Thus, when application A 83 in the above example needs to access content provider A 5 to perform an FTP file transfer, application A 83 will use back channel interface 81 to dial into an internet service

provider using a protocol such as the point to point protocol (PPP) or the serial line internet protocol (SLIP), providing client A 23 with access to the internet, and then perform the FTP file transfer over the internet. Alternatively, back channel interface 81 can be networking hardware to allow access by application A 83, application B 85 and InfoCast browser 89 to a TCP/IP network in the case where client A 23 is located on a local area network implementing TCP/IP. For example, the back channel interface in client C 29 would be networking hardware to allow client C 29 to communicate over local area network 27 (12:55-13:3).

In regards to claim 28, Tso teaches ***action is to forward the message to another*** (column 15 lines 40-50, In Block 115, after schedule/resource controller 61 has received the logs of the InfoActions performed by the user, schedule/resource controller 61 will update subscriber database 53. This update will revise the user profile contained as records in subscriber database 53 and, if server A 17 is not the home InfoCast server of client A 23, then server A 17 will send a message to the home InfoCast server of client A 23 to update the home InfoCast server's subscriber database).

In regards to claim 29, Tso teaches ***action is to save the message*** (column 15 lines 40-50, In Block 115, after schedule/resource controller 61 has received the logs of the InfoActions performed by the user, schedule/resource controller 61 will update subscriber database 53. This update will revise the user profile contained as records in subscriber database 53...).

In regards to claim 30, Tso teaches in column 10 lines 27-40, InfoFeed interface 57 can also process electronic mail (e-mail) messages directed at a set of users in the

territory served by server A 17 and create one or more InfoBites to be transmitted to the users. In cases where there are one or more attachments to the e-mail message, InfoFeed interface 57 would process those attachments in the manner described for files above. Thus, any attachments to the e-mail message would be stored in server content database 51 and each assigned a resource identifier to be stored in server resource database 55. Similar to other resources, attachments would be stored in server A 17 until they are requested by client A 23. InfoFeed interface 57 would allow content providers to create InfoBites by sending e-mail messages with attachments. Tso further teaches in the preferred embodiment, the InfoAction would contain data allowing a user to (1) retrieve one or more URLs referenced by the resource identifiers from schedule/resource controller 61; (2) send information; or (3) execute scripts either locally on client A 23 or remotely on server A 17 (16:9-15).

Tso does not explicitly teach ***deleting*** (email) ***messages***.

It would be obvious to one of ordinary skill in the art at the time of the invention that a system for receiving e-mail and capable of executing scripts or programs on the server could be easily configured to include, among those scripts, performing common e-mail functions such as deleting, forwarding, saving, and replying to e-mail.

In regards to claim 36, Tso teaches ***content notification system accesses MSC to retrieve information associated with the wireless communication device*** (In Block 123, after the old InfoCast server receives the RFC from client A 23, the old InfoCast server requests the current physical location of client A 23 from the MSC serving the area in which client A 23 is located. In this case, as seen in FIG. 2, client A

23 is located in the area served by MSC A 42 and, thus, in Block 125, MSC A 42 returns the physical location of client A 23 (18:28-34)) but does not teach using ***Home Location Registry for location tracking***.

Lu in the same or similar field of endeavor teaches using home location registry for location tracking:

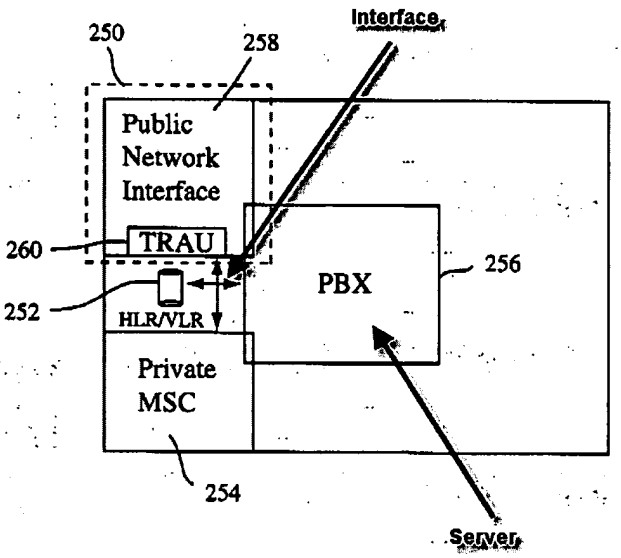

Fig. 2B

FIG. 2B shows in a symbolic format cPBX subsystem 206 of FIG. 2A. Within cPBX subsystem 206, shown are a Gateway MSC (GMSC) block 250, a registry 252 which contains both the home location registry (HLR) and the visitor location registry (VLR registry), a private MSC block 254 and a cPBX block 256 (6:31-36). See also, at 6:62 - 7:10; 10:46-52; 11:6-12, discloses that the HLR tracks the physical location of mobile stations.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate in Tso's system/method of ***server keeping track of the clients,*** with Lu's suggested teaching of ***using a home location registry for such tracking***. The motivation is that (as suggested by Lu, column7, lines 1-10) Registry serves, among others, to keep track of MS units that are authorized to use the resources of the cellular network, the subscriber data such as names, unique identification information such as is kept in Subscriber Identification Module (SIM) for GSM handsets, telephone numbers associated with the MS units, and the like. Subscriber information is kept track of because cellular network must keep track of the MS units controlled by it as well as the subscribers on its network. Further motivation is that known work (i.e. ***server keeping track of the clients with a home location registry***) in one field of endeavor (i.e. Lu prior art) may prompt variations of it for use in either the same field or a different one (i.e. Tso prior art) based on design incentives (i.e. Registry serves, among others, to keep track of MS units that are authorized to use the resources of the cellular network, the subscriber data such as names, unique identification information such as is kept in Subscriber Identification Module (SIM) for GSM handsets, telephone numbers associated with the MS units, and the like. Subscriber information is kept track of because cellular network must keep track of the MS units controlled by it as well as the subscribers on its network) or other market forces/market place incentives if the variations are predictable to one of ordinary skill in the art.

In regards to claim 37, Tso teaches ***information retrieved comprises the wireless network location of the wireless communication device*** (In Block 123, after the old InfoCast server receives the RFC from client A 23, the old InfoCast server requests the current physical location of client A 23 from the MSC serving the area in which client A 23 is located. In this case, as seen in FIG. 2, client A 23 is located in the area served by MSC A 42 and, thus, in Block 125, MSC A 42 returns the physical location of client A 23 (18:28-34)).

In regards to claim 38, Tso teaches ***a method of notifying a cellular phone*** (figure 1 or 2, Client A or B, i.e. elements 23 or 25) ***of information available at a content storage and retrieval unit*** (figure 1, Content Providers 6, 8, 10) ***utilizing a notification system*** (figure 1, InfoCast Server 17) ***that includes a notification terminal controller coupled with an input/output controller*** (In FIG. 3, server A 17 contains a server InfoBite database 50, a server content database 51, a subscriber database 53, and a server resource database 55 coupled to an open database connectivity (ODBC) application programming interface (API) 59. ODBC API 59 is also coupled to an InfoFeed interface 57 and a schedule/resource controller 61. Schedule/resource controller 61 is coupled to a billing service 63, a network A interface 65, and a messaging interface 67 for communicating with a client A 23 through the use of network B 21) ***comprising: receiving, at the notification system, a data transmission from the content storage and retrieval unit, the data transmission including a system identifier*** (i.e. resource identifier, each InfoBite also contains a set of resource identifiers (i.e. storage location). In the preferred embodiment, each

resource identifier is a bit pattern (i.e. address code) generated by InfoFeed Interface 57 for each URL to be included in an InfoBite", 8:1-4) ***that is associated with the content storage and retrieval unit*** (figure 1, any one of Content Provider) ***and an information identifier*** (i.e. interpreted as any one of Title, Topic, Summary) ***that is associated with information stored in the content storage and retrieval unit*** (column 13 lines 16-25, For example, InfoBite 93 contains a news story with the title "Global Warming Warning" and has associated resources 95. Associated resources 95 may include a full story text, a full story audio, a video clip, and an URL to a related story. In the preferred embodiment, each of the resources in associated resources 95 is referenced by a fully qualified URL and thus, just the URLs may be stored in server resource database 55. The resources can be stored in server content database 51 (not shown in FIG. 4) or stored outside server A 17 in content provider E 6; In the preferred embodiment of the invention, content provider A 5, content provider B 7, content provider C 9 and content provider D 11 would use InfoFeed interface 57 to update the databases contained in server A 17 through the use of ODBC API 59. Access to InfoFeed interface 57 is obtained either through the use of network A 3; such as the case for content provider A 5, content provider B 7, content provider C 9 and content provider D 11; a modem bank, such as the case for content provider E 6; a satellite link, such as the case for content provider F 8; a direct connection, such as the case for content provider G 10; or any other communication infrastructure allowing the receiving and transmitting of data. Thus, in the preferred embodiment, InfoFeed interface 57 contains an interface for the internet, modems, satellite transceivers, and direct connections); ***the notification***

system having an interface (Messaging interface 67); ***causing the notification system to relay a notification to the cellular phone that identifies the information and its location*** (i.e. resource identifier, s described above, each InfoBite also contains a set of resource identifiers (i.e. storage location). In the preferred embodiment, each resource identifier is a bit pattern generated by InfoFeed Interface 57 for each URL to be included in an InfoBite", 8:1-4).

Tso teaches server A (element 17) being connected to Base Station Controllers via SMSC and MSC via interface and in column 18 lines 28-34, Tso teaches the old InfoCast server requests the current physical location of client A 23 from the MSC serving the area in which client A 23 is located but does not explicitly teach ***having an interface with a home location registry***.

Lu in the same or similar field of endeavor teaches having an interface (see figure 2B below) with a home location registry.

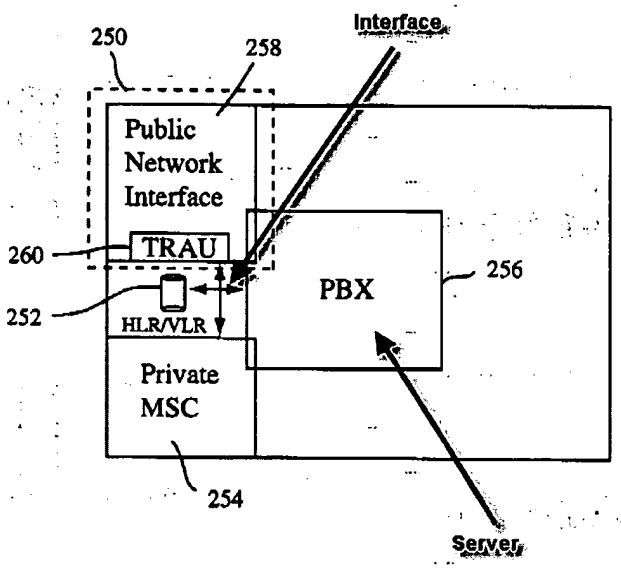

Fig. 2B

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate in Tso's system/method of ***server keeping track of the clients,*** with Lu's suggested teaching of ***using an interface with a home location registry for such tracking***. The motivation is that (as suggested by Lu, column7, lines 1-10) Registry serves, among others, to keep track of MS units that are authorized to use the resources of the cellular network, the subscriber data such as names, unique identification information such as is kept in Subscriber Identification Module (SIM) for GSM handsets, telephone numbers associated with the MS units, and the like. Subscriber information is kept track of because cellular network must keep track of the MS units controlled by it as well as the subscribers on its network. Further motivation is that known work (i.e. ***having an interface with a home location registry***) in one field of endeavor (i.e. Lu prior art) may prompt variations of it for use in either the same field

or a different one (i.e. Tso prior art) based on design incentives (i.e. Registry serves, among others, to keep track of MS units that are authorized to use the resources of the cellular network, the subscriber data such as names, unique identification information such as is kept in Subscriber Identification Module (SIM) for GSM handsets, telephone numbers associated with the MS units, and the like. Subscriber information is kept track of because cellular network must keep track of the MS units controlled by it as well as the subscribers on its network) or other market forces/market place incentives if the variations are predictable to one of ordinary skill in the art.

In regards to claim 39, Tso teaches ***notification system accesses MSC to retrieve information associated with the wireless communication device*** (In Block 123, after the old InfoCast server receives the RFC from client A 23, the old InfoCast server requests the current physical location of client A 23 from the MSC serving the area in which client A 23 is located. In this case, as seen in FIG. 2, client A 23 is located in the area served by MSC A 42 and, thus, in Block 125, MSC A 42 returns the physical location of client A 23 (18:28-34)) but does not teach using ***Home Location Registry for location tracking***.

Lu in the same or similar field of endeavor teaches using home location registry for location tracking:

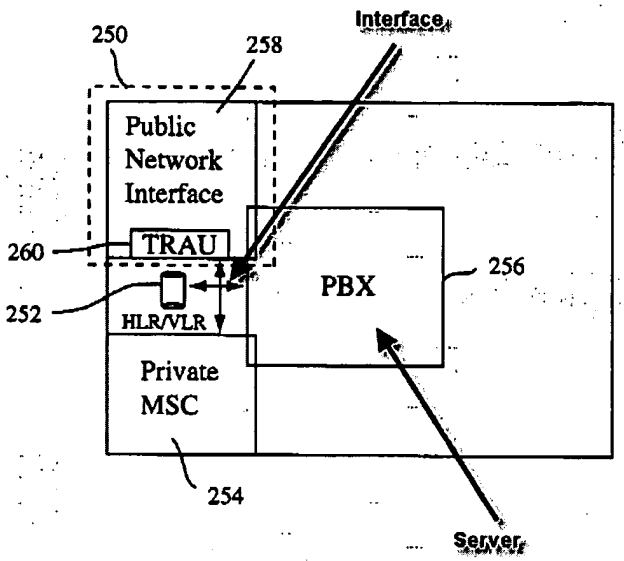

Fig. 2B

FIG. 2B shows in a symbolic format cPBX subsystem 206 of FIG. 2A. Within cPBX subsystem 206, shown are a Gateway MSC (GMSC) block 250, a registry 252 which contains both the home location registry (HLR) and the visitor location registry-(VLR registry), a private MSC block 254 and a cPBX block 256 (6:31-36). See also, at 6:62 - 7:10; 10:46-52; 11:6-12, discloses that the HLR tracks the physical location of mobile stations.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate in Tso's system/method of ***server keeping track of the clients,*** with Lu's suggested teaching of ***using a home location registry for such tracking***. The motivation is that (as suggested by Lu, column7, lines 1-10) Registry serves, among others, to keep track of MS units that are authorized to use the resources of the cellular network, the subscriber data such as names, unique

identification information such as is kept in Subscriber Identification Module (SIM) for GSM handsets, telephone numbers associated with the MS units, and the like. Subscriber information is kept track of because cellular network must keep track of the MS units controlled by it as well as the subscribers on its network. Further motivation is that known work (i.e. ***server keeping track of the clients with a home location registry***) in one field of endeavor (i.e. Lu prior art) may prompt variations of it for use in either the same field or a different one (i.e. Tso prior art) based on design incentives (i.e. Registry serves, among others, to keep track of MS units that are authorized to use the resources of the cellular network, the subscriber data such as names, unique identification information such as is kept in Subscriber Identification Module (SIM) for GSM handsets, telephone numbers associated with the MS units, and the like. Subscriber information is kept track of because cellular network must keep track of the MS units controlled by it as well as the subscribers on its network) or other market forces/market place incentives if the variations are predictable to one of ordinary skill in the art.

In regards to claim 40, Tso teaches information retrieved comprises the wireless network location of the cellular phone (In Block 123, after the old InfoCast server receives the RFC from client A 23, the old InfoCast server requests the current physical location of client A 23 from the MSC serving the area in which client A 23 is located. In this case, as seen in FIG. 2, client A 23 is located in the area served by MSC A 42 and, thus, in Block 125, MSC A 42 returns the physical location of client A 23 (18:28-34)).

In regards to claim 41, Tso teaches ***notification system creates the notification*** (Tso discloses that the notification (e.g. InfoBite) is created by a notification system (e.g. InfoCast server): "For each item contained in an InfoCast, InfoFeed interface 57 will create an 'InfoBite,' which can be sent to a user in lieu of the full item, as described below. Each InfoBite consists of a title, summary information for the associated item in the InfoCast, such as keywords, category names or titles; and data necessary for a user to: (1) obtain a corresponding item of information from which an InfoBite is generated; (2) obtain a cross reference to an item of information; or, (3) perform certain 'InfoActions,' as described below. In addition to the methods described below, InfoBites can also be generated by using a custom InfoBite editor (7:30-40). In situations where summary information is not provided by a content provider, InfoFeed interface 57 will generate summary information as a portion of text from the beginning of a text item if the item is a text file, or a title if the item is a graphics file, an audio file, or a series of video frames. It is to be noted that summary information for different types of files can be placed in a single InfoBite. For example, summary information for a video/audio segment will consist of both a title for the video segment and a title for the segment of audio data. In addition, the resource identifiers for the video and audio data will be included, as described below, so that a client may retrieve those resources (7:56-67).

In regards to claim 42, Tso teaches ***content storage and retrieval unit creates the notification*** (Tso discloses that the notification (e.g. InfoBite) is created by a content storage and retrieval unit (e.g. content provider): For each item contained in an

InfoCast, InfoFeed interface 57 will create an 'InfoBite,' which can be sent to a user in lieu of the full item, as described below. Each InfoBite consists of a title, summary information for the associated item in the InfoCast, such as keywords, category names or titles; and data necessary for a user to: (1) obtain a corresoonding item of information from which an InfoBite is generated; (2) obtain a cross reference to an item of information; or, (3) perform certain 'InfoActions,' as described below. In addition to the methods described below, InfoBites can also be generated by using a custom InfoBite editor (7:30-40). In the preferred embodiment, the part of each InfoBite that is summary information for each particular item in an InfoCast is created by the content provider providing the InfoCast. For example, in the case where the information is a news story, summary information can be the title of the story. In another example, where the item of information is a graphic, summary information can consist of a caption or title of the graphic. In yet another example, where a content provider supplies a video/audio feed, summary information can consist of a title for a video segment available for viewing. In the case where the content provider provides a multimedia feed, such as content provider G 10, summary information can be transmitted to InfoFeed interface 57 using a separate portion the transmission channel, such as the vertical blanking interval (7:41-55).

In regards to claim 43, Tso teaches ***notification identifies the information's location by using at least a system identifier*** (Tso discloses that the notification (e.g., InfoBite) includes a system identifier that is associated with the information's location. More particularly, Tso discloses that the InfoBite contains a number of "resource

identifiers," each of which identifies the location of the information. "As described above, each InfoBite also contains a set of resource identifiers. In the preferred embodiment, each resource identifier is a bit pattern generated by InfoFeed Interface 57 for each URL to be included in an InfoBite (8:1-4). "After an InfoBite containing one or more resource identifiers is transmitted to a user, if the user wishes to retrieve an article or item identified by a resource identifier, a request is made by the client to the InfoCast server to send the fully qualified URL associated with the resource identifier to the client. The request is made by the client transmitting the resource identifier to the InfoCast server. The InfoCast server will either transmit the fully qualified URL associated with the resource identifier, or, bandwidth permitting, transmit the story or item to the client (8:48-57). "Server content database 51 and server resource database 55, containing the set of data and pointers to data respectively are logically a single database necessary to serve the users in the territory served by server A 17. [S]erver resource database 55 contains resource location as URLs referencing any resource on any possible site on the internet and locally in server content database 51 (6:21-30). "For each item contained in an InfoCast, InfoFeed interface 57 will create an 'InfoBite,' which can be sent to a user in lieu of the full item, as described below. Each InfoBite consists of a title, summary information for the associated item in the InfoCast, such as keywords, category names or titles; and data necessary for a user to: (1) obtain a corresponding item of information from which an InfoBite is generated; (2) obtain a cross reference to an item of information; or, (3) perform certain 'InfoActions,' as described below (7:30-39). "In addition, the fully qualified URL's are

each assigned an unique resource identifier number contained in InfoBite 93. For example, the 'Full Story Audio' resource, which is stored in server content database 51, can be referenced by the use of the URL: 'FTP://FTP.infocast.net/stories/warming.wav'. This URL is contained in server resource database 55 and is assigned a resource number of 'FFFFFF.' In Block 253, after the user of client A 23 decides to retrieve the 'Full Story Audio' resource, client A 23 sends an InfoAction to request the download of the InfoCast resource referenced by the URL identified by resource number 'FFFFFF' from server A 17 (24:47-59)).

In regards to claim 44, Tso ***teaches notification identifies the information's location by using at least a system address*** (Tso discloses that the notification (e.g., InfoBite) includes a system identifier that is associated with the information's location. More particularly, Tso discloses that the InfoBite contains a number of "resource identifiers," each of which identifies the location of the information. "As described above, each InfoBite also contains a set of resource identifiers. In the preferred embodiment, each resource identifier is a bit pattern generated by InfoFeed Interface 57 for each URL to be included in an InfoBite (8:1-4). "After an InfoBite containing one or more resource identifiers is transmitted to a user, if the user wishes to retrieve an article or item identified by a resource identifier, a request is made by the client to the InfoCast server to send the fully qualified URL associated with the resource identifier to the client. The request is made by the client transmitting the resource identifier to the InfoCast server. The InfoCast server will either transmit the fully qualified URL associated with the resource identifier, or, bandwidth permitting, transmit the story or

item to the client (8:48-57). "Server content database 51 and server resource database 55, containing the set of data and pointers to data respectively are logically a single database necessary to serve the users in the territory served by server A 17. [S]erver resource database 55 contains resource location as URLs referencing any resource on any possible site on the internet and locally in server content database 51 (6:21-30). "For each item contained in an InfoCast, InfoFeed interface 57 will create an 'InfoBite,' which can be sent to a user in lieu of the full item, as described below. Each InfoBite consists of a title, summary information for the associated item in the InfoCast, such as keywords, category names or titles; and data necessary for a user to: (1) obtain a corresponding item of information from which an InfoBite is generated; (2) obtain a cross reference to an item of information; or, (3) perform certain 'InfoActions,' as described below (7:30-39). "In addition, the fully qualified URL's are each assigned an unique resource identifier number contained in InfoBite 93. For example, the 'Full Story Audio' resource, which is stored in server content database 51, can be referenced by the use of the URL: 'FTP://FTP.infocast.net/stories/warming.wav'. This URL is contained in server resource database 55 and is assigned a resource number of 'FFFFFF.' In Block 253, after the user of client A 23 decides to retrieve the 'Full Story Audio' resource, client A 23 sends an InfoAction to request the download of the InfoCast resource referenced by the URL identified by resource number 'FFFFFF' from server A 17 (24:47-59). "As described in Table 1, above, there are different types of InfoActions, identified by the Action_Type field. These InfoActions allow the user to perform actions, such as access the internet, initiate voice calls, and process scripts, on the client. When

the InfoAction is executed by the browser, the Action_Type field is used to determine the way in which the information in the Data field is interpreted. For instance, an Action_Type code of "00H" tells the browser that the Data field of the action contains a URL and a WWW browser should be executed using the URL as a parameter (8:65-9:7)).

In regards to claim 45, Tso teaches ***notification further comprises a format code with regard to the message*** (Tso discloses the notification (e.g. InfoBite message) further comprises a format code with regard to the message. Specifically, Tso discloses that an InfoBite packet includes multiple parameters that define the format of the InfoBite message. These parameters include at least "Version_ID", which describes the version number of the protocol that the packet conforms to (and is a format); "Packet_ID", which describes the message type (and is a format); "Location_Bit", which describes whether the InfoBite is location specific (and is a format)).

In regards to claim 46, Tso teaches ***notification further comprises retrieval instructions with regard to the message*** (Tso discloses that the notification (e.g. InfoBite message) comprises retrieval instructions with regard to the message. Specifically, Tso discloses that an InfoBite message can include one or more InfoActions, which are described in a data field:

Data	Contains data for the InfoBite. This optionally contains other fields which are parsed if necessary.
Number_of_ Actions	The number of actions contained in the InfoBite.
#Action_Type	Tells client chow to interpret Data Field of InfoAction as contained in Table 2..

'327 patent, 8:35-40.

Tso discloses that an InfoAction can include an option to "Download InfoCast Resource." This includes a list of resource identifiers that are resolved to an FTP server and a file name. This information comprises instructions to retrieve the resource:

TABLE 2

Supported InfoActions

Action Type	Code	Transfer Media	Data Field	Suggested Application	Description
Internet Access	00H	Data	URL	WWW Browser	Internet access phone number, if needed, is obtained from client configuration tables.
Download InfoCast Resource	01H	Message	List of Resource Identifiers	InfoCast	Once the FTP server and file name for the resource has been found, action 00H is used to retrieve the resource.

'327 patent, 9:24-43.

In regards to claim 47, Tso teaches ***retrieval instructions specify when the message is to be retrieved by the cellular phone*** (Tso discloses that the retrieval instructions (e.g. parameters in the InfoBite message) specify when the message is to be retrieved by the cellular phone (e.g. client device in the InfoCast system). Specifically, Tso discloses that each resource item in the InfoCast system has a "time to live" that specifies the time durin~ which the resource is available:

TABLE 1

InfoBite Packet Format

Field	Example	Description
Time_To_Live	0H	Indicates how long the InfoBite will remain in the client system.

'327 patent, 12:13-17, 12:27-28.

In regards to claim 48, Tso teaches ***information comprises video*** (Tso discloses that the information (e.g., resources identified in an InfoBite packet) can include video: "For example, InfoBite 93 contains a news story with the title 'Global Warming Warning' and has associated resources 95. Associated resources 95 may include a full story text, a full story audio, a video clip, and an URL to a related story. In the preferred embodiment each of the resources in associated resources 95 is referenced by a fully qualified URL and thus, just the URLs may be stored in server resource database 55. The resources can be stored in server content database 51 (not shown in Fig. 4), or outside server A 17 in content provider E 6 (13:16-25). "In yet another example, where a content provider supplies a video/audio feed, summary information can consist of a title for a video segment available for viewing (3:48-51). "For example, summary information for a video/audio segment will consist of both a title for the video segment and a title for segment of audio data. In addition, the resource identifiers for the video and audio data will be included, as described below, so that a client may retrieve those resources (7:62-67). "It is also to be noted that in cases where an item received by server A 17 is a non-text element such as a graphic, a sound sample or a video segment, InfoFeed interface 57 can create summary file of a smaller

graphic that is a 'thumbnail' version of the graphic, a or limited portion of the audio sample, or a series of frames from the video segment, respectively (10:10-16).

In regards to claim 49, Tso teaches ***information comprises promotional video for a movie (Tso discloses that the information*** (e.g., resources identified in an InfoBite packet) can include video: "For example, InfoBite 93 contains a news story with the title 'Global Warming Warning' and has associated resources 95. Associated resources 95 may include a full story text, a full story audio, a video clip, and an URL to a related story. In the preferred embodiment each of the resources in associated resources 95 is referenced by a fully qualified URL and thus, just the URLs may be stored in server resource database 55. The resources can be stored in server content database 51 (not shown in Fig. 4), or outside server A 17 in content provider E 6 (13:16-25). "In yet another example, where a content provider supplies a video/audio feed, summary information can consist of a title for a video segment available for viewing (3:48-51). "For example, summary information for a video/audio segment will consist of both a title for the video segment and a title for segment of audio data. In addition, the resource identifiers for the video and audio data will be included, as described below, so that a client may retrieve those resources (7:62-67). "It is also to be noted that in cases where an item received by server A 17 is a non-text element such as a graphic, a sound sample or a video segment, InfoFeed interface 57 can create summary file of a smaller graphic that is a 'thumbnail' version of the graphic, a or limited portion of the audio sample, or a series of frames from the video segment, respectively (10:10-16). One of ordinary skill in the art would understand that the type of video generated by a content

provider could include a promotional video for a movie, as well as any other type of video content.

In regards to claim 50, Tso teaches ***information comprises promotional video for a show*** (Tso discloses that the information (e.g., resources identified in an InfoBite packet) can include video: "For example, InfoBite 93 contains a news story with the title 'Global Warming Warning' and has associated resources 95. Associated resources 95 may include a full story text, a full story audio, a video clip, and an URL to a related story. In the preferred embodiment each of the resources in associated resources 95 is referenced by a fully qualified URL and thus, just the URLs may be stored in server resource database 55. The resources can be stored in server content database 51 (not shown in Fig. 4), or outside server A 17 in content provider E 6 (13:16-25). "In yet another example, where a content provider supplies a video/audio feed, summary information can consist of a title for a video segment available for viewing (3:48-51). "For example, summary information for a video/audio segment will consist of both a title for the video segment and a title for segment of audio data. In addition, the resource identifiers for the video and audio data will be included, as described below, so that a client may retrieve those resources (7:62-67). "It is also to be noted that in cases where an item received by server A 17 is a non-text element such as a graphic, a sound sample or a video segment, InfoFeed interface 57 can create summary file of a smaller graphic that is a 'thumbnail' version of the graphic, a or limited portion of the audio sample, or a series of frames from the video segment, respectively (10:10-16). One of ordinary skill in the art would understand that the type of video generated by a content

provider could include a promotional video for a show, as well as any other type of video content.

In regards to claim 51, Tso teaches ***information comprises music*** (Tso further discloses that information (e.g. resources identified in an InfoBite packet) can include the audio: For example, InfoBite 93 contains a news story with the title 'Global Warming Warning' and has associated resources 95. Associated resources 95 may include a full story text, a full story audio, a video clip, and an URL to a related story. In the preferred embodiment each of the resources in associated resources 95 is referenced by a fully qualified URL and thus, just the URLs may be stored in server resource database 55. The resources can be stored in server content database 51 (not shown in Fig. 4), or outside server A 17 in content provider E 6 (13:16-25). In yet another example, where a content provider supplies a video/audio feed, summary information can consist of a title for a video segment available for viewing (3:48-51). For example, summary information for a video/audio segment will consist of both a title for the video segment and a title for segment of audio data. In addition, the resource identifiers for the video and audio data will be included, as described below, so that a client may retrieve those resources (7:62-67). It is also to be noted that in cases where an item received by server A 17 is a non-text element such as a graphic, a sound sample or a video segment, InfoFeed interface 57 can create summary file of a smaller graphic that is a 'thumbnail' version of the graphic, a or limited portion of the audio sample, or a series of frames from the video segment, respectively (10:10-16).

One of ordinary skill in the art would understand that the type of audio generated by a content provider could include a music, as well as any other type of audio content.

In regards to claim 52, Tso teaches ***content storage and retrieval unit is coupled to the wired Internet and configured such that a user may act upon the information by a wired Internet connection*** (For non-cellular embodiments.., a wired or wireless network connection to InfoCast servers, with the client periodically sending messages indicating its current location (16:44-49). For wired networks, where the client is stationary, a database which maps terminals using IP addresses to physical locations is used (17:12-13). In FIG. 1, a communication system 1 containing the preferred embodiment of the invention is illustrated. Communication system 1 includes a network A 3, which in the preferred embodiment is a wide area network such as the internet. Network A 3 has a content provider A 5, a content provider B 7, a content provider C 9, and a content provide D 11 connected to it. Network A 3 also has a computer system A 13 and a computer system B 15 connected to it. Lastly, network A 3 has a server A 17 and a server B 19 connected to it (2:54-63). In the preferred embodiment, content provider A 5 is a hyper-text transport protocol (HTTP) server that can provide a real-time news service to the various computer systems connected to network A 3 via hyper-text markup language (HTML) documents. Content provider B 7 is a file transfer protocol (FFP) server which allows clients to access files located on the server. Content provider C 9 is another HTTP server maintained by a business and configured to be able to process electronic transactions. Content provider D 11 is an HTTP server configured to provide advertising information via HTML documents. Alternatively,

content providers A 5, B 7, C 9 and D 11 can be servers offering other types of information using different protocols. For instance, content provider A 5, instead of being an HTTP server configured for delivering news, can be a server for providing wide area information services (WAIS). Other types of servers that can be located on network A 3 in addition to the servers mentioned above can include Gopher servers, Archie servers, and other servers providing other multimedia data. Moreover, servers providing WWW "searching" services--i.e., servers that search WWW sites and retrieve information matching certain criteria from those WWW sites--and USENET search engines--i.e., servers that search USENET news groups--can also interface with an InfoCast server to provide a constant stream of new information. Computer system A 13 and computer system B 15 represent a general class of computer systems including workstations, minicomputers and personal computers. These computer systems can access the various services provided by content provider A 5, B 7, C 9 and D 11. Alternatively, computer system A 13 and computer system B 15 can be any computing device equipped to access network A 3 (3:8-40).

In regards to claim 53, Tso teaches ***user may retrieve the information over the wired Internet*** (For non-cellular embodiments.., a wired or wireless network connection to InfoCast servers, with the client periodically sending messages indicating its current location (16:44-49). For wired networks, where the client is stationary, a database which maps terminals using IP addresses to physical locations is used (17:12-13). In FIG. 1, a communication system 1 containing the preferred embodiment of the invention is illustrated. Communication system 1 includes a network A 3, which in the preferred

embodiment is a wide area network such as the internet. Network A 3 has a content provider A 5, a content provider B 7, a content provider C 9, and a content provide D 11 connected to it. Network A 3 also has a computer system A 13 and a computer system B 15 connected to it. Lastly, network A 3 has a server A 17 and a server B 19 connected to it (2:54-63). In the preferred embodiment, content provider A 5 is a hyper-text transport protocol (HTTP) server that can provide a real-time news service to the various computer systems connected to network A 3 via hyper-text markup language (HTML) documents. Content provider B 7 is a file transfer protocol (FFP) server which allows clients to access files located on the server. Content provider C 9 is another HTTP server maintained by a business and configured to be able to process electronic transactions. Content provider D 11 is an HTTP server configured to provide advertising information via HTML documents. Alternatively, content providers A 5, B 7, C 9 and D 11 can be servers offering other types of information using different protocols. For instance, content provider A 5, instead of being an HTTP server configured for delivering news, can be a server for providing wide area information services (WAIS). Other types of servers that can be located on network A 3 in addition to the servers mentioned above can include Gopher servers, Archie servers, and other servers providing other multimedia data. Moreover, servers providing WWW "searching" services--i.e., servers that search WWW sites and retrieve information matching certain criteria from those WWW sites--and USENET search engines--i.e., servers that search USENET news groups--can also interface with an InfoCast server to provide a constant stream of new information. Computer system A 13 and computer system B 15 represent

a general class of computer systems including workstations, minicomputers and personal computers. These computer systems can access the various services provided by content provider A 5, B 7, C 9 and D 11. Alternatively, computer system A 13 and computer system B 15 can be any computing device equipped to access network A 3 (3:8-40).

In regards to claim 55, Tso teaches ***storage and retrieval unit is adapted to store voice messages*** (For example, InfoBite 93 contains a news story with the title 'Global Warming Warning' and has associated resources 95. Associated resources 95 may include a full story text, a full story audio, a video clip, and an URL to a related story. In the preferred embodiment each of the resources in associated resources 95 is referenced by a fully qualified URL and thus, just the URLs may be stored in server resource database 55. The resources can be stored in server content database 51 (not shown in Fig. 4), or outside server A 17 in content provider E 6 (13:16-25). In yet another example, where a content provider supplies a video/audio feed, summary information can consist of a title for a video segment available for viewing (3:48-51). For example, summary information for a video/audio segment will consist of both a title for the video segment and a title for segment of audio data. In addition, the resource identifiers for the video and audio data will be included, as described below, so that a client may retrieve those resources (7:62-67). It is also to be noted that in cases where an item received by server A 17 is a non-text element such as a graphic, a sound sample or a video segment, InfoFeed interface 57 can create summary file of a smaller

graphic that is a 'thumbnail' version of the graphic, a or limited portion of the audio sample, or a series of frames from the video segment, respectively (10:10-16).

One of ordinary skill in the art would understand that the type of audio generated by a content provider in e-mail systems could include voice mail content.

In regards to claim 56, Tso teaches ***storage and retrieval unit is further adapted to receive voice messages*** (For example, InfoBite 93 contains a news story with the title 'Global Warming Warning' and has associated resources 95. Associated resources 95 may include a full story text, a full story audio, a video clip, and an URL to a related story. In the preferred embodiment each of the resources in associated resources 95 is referenced by a fully qualified URL and thus, just the URLs may be stored in server resource database 55. The resources can be stored in server content database 51 (not shown in Fig. 4), or outside server A 17 in content provider E 6 (13:16-25). In yet another example, where a content provider supplies a video/audio feed, summary information can consist of a title for a video segment available tor viewing (3:48-51). For example, summary information for a video/audio segment will consist of both a title for the video segment and a title for segment of audio data. In addition, the resource identifiers for the video and audio data will be included, as described below, so that a client may retrieve those, resources (7:62-67). It is also to be noted that in cases where an item received by server A 17 is a non-text element such as a graphic, a sound sample or a video segment, InfoFeed interface 57 can create summary file of a smaller graphic that is a 'thumbnail' version of the graphic, a or limited portion of the audio sample, or a series of frames from the video segment, respectively (10:10-16). In

addition, InfoFeed interface 57 can also process electronic mail (e-mail) messages directed at a set of users in the territory served by server A 17 and create one or more InfoBites to be transmitted to the users. In cases where there are one or more attachments to the e-mail message, InfoFeed interface 57 would process those attachments in the manner described for files above. Thus, any attachments to the e-mail message would be stored in server content database 51 and each assigned a resource identifier to be stored in server resource database 55. Similar to other resources, attachments would be stored in server A 17 until they are requested by client A 23. InfoFeed interface 57 would allow content providers to create InfoBites by sending e-mail messages with attachments (10:27-40).

One of ordinary skill in the art would understand the disclosure of Tso to require that the content provider sending the e-mail messages to the InfoFeed interface would need to first receive that message.

In regards to claim 57, Tso teaches ***storage and retrieval unit is further adapted to record voice messages*** (For example, InfoBite 93 contains a news story with the title 'Global Warming Warning' and has associated resources 95. Associated resources 95 may include a full story text, a full story audio, a video clip, and an URL to a related story. In the preferred embodiment each of the resources in associated resources 95 is referenced by a fully qualified URL and thus, just the URLs may be stored in server resource da.tabase 55. The resources can be stored in server content database 51 (not shown in Fig. 4), or outside server A 17 in content provider E 6 (13:16-25). In yet another example, where a content provider supplies a video/audio feed,

summary information can consist of a title for a video segment available for viewing (3:48-51). For example, summary information for a video/audio segment will consist of both a title for the video segment and a title for segment of audio data. In addition, the resource identifiers for the video and audio data will be included, as described below, so that a client may retrieve those resources (7:62-67). It is also to be noted that in cases where an item received by server A 17 is fi non-text element such as a graphic, a sound sample or a video segment, InfoFeed interface 57 can create summary file of a smaller graphic that is a 'thumbnail' version of the graphic, a or limited portion of the audio sample, or a series of frames from the video segment, respectively (10:10-16). In addition, InfoFeed interface 57 can also process electronic mail (e-mail) messages directed at a set of users in the territory served by server A 17 and create one or more InfoBites to be transmitted to the users. In cases where there are one or more attachments to the e-mail message, InfoFeed interface 57 would process those attachments in the manner described for files above. Thus, any attachments to the e-mail message would be stored in server content database 51 and each assigned a resource identifier to be stored in server resource database 55. Similar to other resources, attachments would be stored in server A 17 until they are requested by client A 23. InfoFeed interface 57 would allow content providers to create InfoBites by sending e-mail messages with attachments (10:27-40).

One of ordinary skill in the art would understand the disclosure of Tso to require that the content provider sending the e-mail messages to the InfoFeed interface would

need to be capable of recording that message in order to receive the message in the first instance.

In regards to claim 59, Tso teaches ***content storage and retrieval unit receives a request, the request sent from the cellular phone in response to a received notification, the request including an indication that an action be performed on the information*** (column 4 lines 15-19, column 8 lines 48-64, in FIG. 2, client A 23, which is located in a geographical area served by base station transceiver A 46, communicates with server A 17 through the use of base station transceiver A 46, base station controller A 44, mobile switching center A 42, and short message service center 41. After an InfoBite containing one or more resource identifiers is transmitted to a user, if the user wishes to retrieve an article or item identified by a resource identifier, a request is made by the client to the InfoCast server to send the fully qualified URL associated with the resource identifier to the client. The request is made by the client transmitting the resource identifier to the InfoCast server. (In Block 253, after the user of client A 23 decides to retrieve the "Full Story Audio" resource, client A 23 sends an InfoAction (i.e. an indication that an action be performed) to request the download of the InfoCast resource referenced by the URL identified by resource number "FFFFFF" from server A 17 .... In an alternative embodiment, where the resource requested is contained in server content database 51 of server A 17, server A 17 can send the resource directly to client A 23 instead of sending the fully qualified URL", 24:55-66. In the preferred embodiment, content provider A 5 is a hyper-text transport protocol (HTTP) server that can provide a real-time news service to the various computer

systems connected to network A 3 via hyper-text markup language (H1ML) documents. Content provider B 7 is a file transfer protocol (FTP) server which allows clients to access files located on the server. Content provider C 9 is another HTTP server maintained by a business and configured to be able to process electronic transactions. Content provider D 11 is an HTTP server configured to provide advertising information via HTML documents", 3:8-18. After receiving the fully qualified URL, the client can then initiate an InfoAction (i.e. an indication that an action be performed) to retrieve the item identified by the fully qualified URL. In the preferred embodiment, large files and resources are not stored locally by InfoCast servers but are only accessible by using the fully qualified URL (i.e. an indication that an action be performed) to retrieve the resource at the original storage location of the resource).

In regards to claim 60, Tso teaches ***request to the content storage and retrieval unit does not pass through the notification system*** ([W]here an InfoBite that announces the availability of a demonstration program at an FTP site such as content provider B 7 contains a resource identifier to allow the user to initiate an FTP transfer by invoking an InfoAction[,]... after retrieval of the fully qualified URL associated with the resource identifier either locally or from client A 17, InfoCast browser 89 calls application A 83 through the use of InfoAction API 87 to communicate with content provider B 7 through the use of back-channel interface 81. If InfoCast browser 89 is capable of acting as an FFP client, InfoCast browser 89 can use back channel interface 81 to perform the FFP file transfer over network B 21 by contacting an internet service provider (25:25-37). Back channel interface 81 in the preferred embodiment is a cellular

data call. Thus, when application A 83 in the above example needs to access content provider A 5 to perform an FTP file transfer, application A 83 will use back channel interface 81 to dial into an internet service provider using a protocol such as the point to point protocol (PPP) or the serial line internet protocol (SLIP), providing client A 23 with access to the internet, and then perform the FTP file transfer over the internet. Alternatively, back channel interface 81 can be networking hardware to allow access by application A 83, application B 85 and InfoCast browser 89 to a TCP/IP network in the case where client A 23 is located on a local area network implementing TCP/IP. For example, the back channel interface in client C 29 would be networking hardware to allow client C 29 to communicate over local area network 27 (12:55-13:3).

In regards to claim 61, Tso teaches ***action comprises one or more of forward the information, delete the information, or save the information*** (column 15 lines 40-50, In Block 115, after schedule/resource controller 61 has received the logs of the InfoActions performed by the user, schedule/resource controller 61 will update subscriber database 53. This update will revise the user profile contained as records in subscriber database 53 and, if server A 17 is not the home InfoCast server of client A 23, then server A 17 will send a message to the home InfoCast server of client A 23 to update the home InfoCast server's subscriber database).

In regards to claim 62, Tso teaches content storage and retrieval unit has not received a request from the cellular phone indicating the action to be performed is to receive the information at the cellular phone (For example, Tso discloses that the memory controller (e.g., interface 57 and/or schedule/resource controller 61) is

configured to execute a command comprising at least forwarding the content to a specified recipient, independently of any request to retrieve the content to the cellular phone: After an InfoBite containing one or more resource identifiers is transmitted to a user, if the user wishes to retrieve an article or item identified by a resource identifier, a request is made by the client to the InfoCast server to send the fully qualified URL associated with the resource identifier to the client. The request is made by the client transmitting the resource identifier to the InfoCast server. The InfoCast server will either transmit the fully qualified URL associated with the resource identifier, or, bandwidth permitting, transmit the story or item to the client (8:48-57). After receiving the fully qualified URL, the client can then initiate an InfoAction to retrieve the item identified by the fully qualified URL. In the preferred embodiment, large files and resources are not stored locally by InfoCast servers but are only accessible by using the fully qualified URL to retrieve the resource at the original storage location of the resource (8:58-65). In addition, InfoFeed interface 57 can also process electronic mail (e-mail) messages directed at a set of users in the territory served by server A 17 and create one or more InfoBites to be transmitted to the users. In cases where there are one or more attachments to the e-mail message, InfoFeed interface 57 would process those attachments in the manner described for files above. Thus, any attachments to the e-mail message would be stored in server content database 51 and each assigned a resource identifier to be stored in server resource database 55. Similar to other resources, attachments would be stored in server A 17 until they are requested by client A23. InfoFeed interface 57 would allow content providers to create

InfoBites by sending e-mail messages with attachments (10:27-40). Also, if the client resource database 71 does not contain the required resource to properly display the traffic information InfoBite, such as a map of the freeway system or a map of the surface street on which the user is located, then client A 23 may, if desired, either: (1) query schedule/resource controller 61 to retrieve that information in server content database 51 through the use of ODBC API 59 over network B 21 as via SMS messages, a direct data call, or a network connection; (2) query schedule/resource controller 61 to send the fully qualified URL associated with the resource identifier assigned to the map so that client A 23 can retrieve that map using back channel interface 21; or (3) not download the map and display a standard icon to inform the user that a map is available for downloading (14:21-34). In describing FIG. 6, the example where a user moves out of the territory served by one InfoCast server and into the territory served by another InfoCast server will be used. Referring also to FIGS. 1 through 3, assume server A 17 is again the InfoCast server for California. Assuming that the territory from which the user has traveled is the state of Nevada, the InfoCast server serving the state of Nevada would transfer control to server A 17 (17:31-38). Referring to FIG. 6, operation begins in Block 121, after the user, or client A 23, enters the territory served by server A 17. In Block 121, client A 23 will request configuration information by sending a request for configuration (RFC) message to the old, or last known, InfoCast server, which in this case is the Nevada InfoCast server (17:39-44). In Block 129, the old InfoCast server has determined that client A 23 is not in a domain served by the old InfoCast server but, instead, in a domain served by server A 17--i.e. somewhere in California. Thus, the old

InfoCast server will forward the RFC received from client A 23 to server A 17 (18:51-55). In Block 131, server A 17 will issue a client configuration message with a list of updated resources to client A 23. What resources are contained in the list of updated resources is determined by server A 17 by identifying the last time client A 23 was in a domain served by server A 17 from the Last_Time In Domain field of the RFC message, and then appending any resources updated after that time to the list of updated resources. Client A 23 has the option at this point of retrieving any of the resources as desired (18:56-64). Tso further discloses a set of InfoActions that include executing a script on a server: In the preferred embodiment, as described above, the InfoAction would contain data allowing a user to (1) retrieve one or more URLs referenced by the resource identifiers from schedule/resource controller 61; (2) send information; or (3) execute scripts either locally on client A 23 or remotely on server A 17 (16:9-15).

It would be obvious to one of ordinary skill in the art at the time of the invention that a system for receiving e-mail and capable of executing scripts or programs on the server could be easily configured to forward e-mail.

In regards to claim 63, Tso teaches ***notification system correlates messages in the content and storage and retrieval unit with subscriber listings*** ("Subscriber database 53 contains the records of all users for which server A 17 is the home InfoCast server, and all users who are currently in the -.territory serviced by server A. 17. Therefore, the subscriber database of each InfoCast server contains a subset of a logical database containing all the records of the users--i.e., the complete subscriber database is actually physically distributed over all the InfoCast servers. For example,

assuming there is only one InfoCast server in each of the fifty states of the United States, the subscriber database in the InfoCast server located in California would contain the user records of all users who have the California InfoCast server as their home InfoCast server. In addition, the subscriber database contained in the California InfoCast server would also contain the user records of all the users who are currently in California (4:65-5:12). Schedule/resource controller 61 is responsible for filtering the InfoBites that are sent to a user based upon the user's profile as contained in the user's record and subscriber database 53--i.e., a subscriber profile filter, the user's current location--i.e., a locational filter, and the time of day--i.e., a temporal filter. Alternatively, the filtering may be performed on a client, such as client A 23. For example, an InfoCast from content provider A 5 can contain several news stories. Each of these news stories can be filtered as described below to assess its suitability to be sent to each user (10:41-53).

In regards to claim 69, Tso teaches notification including an indication of the type of information (Tso discloses the notification (e.g. InfoBite message) further comprises a type code with regard to the message. Specifically, Tso discloses that an InfoBite packet includes multiple parameters that define the type of the InfoBite message. These parameters include at least "Version_ID", which describes the version number of the protocol that the packet conforms to (and is a type); "Packet_ID", which describes the message type (and is a type); "Location_Bit", which describes whether the InfoBite is location specific (and is a type), “Data” (and is a type)).

In regards to claim 70, Tso teaches ***type includes a text type, a picture type, a video type, an audio type, or a music type*** (figure 9, below):

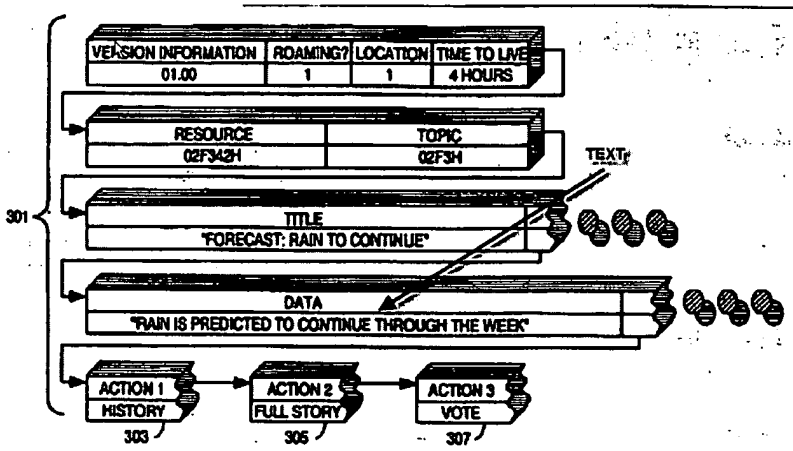

FIG. 9

In regards to claim 74, Tso teaches ***the first notification system has an interface with a MSC*** (Tso teaches server A (element 17) being connected to Base Station Controllers via SMSC and MSC and in column 18 lines 28-34, Tso teaches the old InfoCast server requests the current physical location of client A 23 from the MSC serving the area in which client A 23 is located) but does not explicitly teach ***notification system having an interface with a home location registry***.

Lu in the same or similar field of endeavor teaches in a PBX (interpreted as a ***notification system***) having an interface (see figure 2B below) with a home location registry.

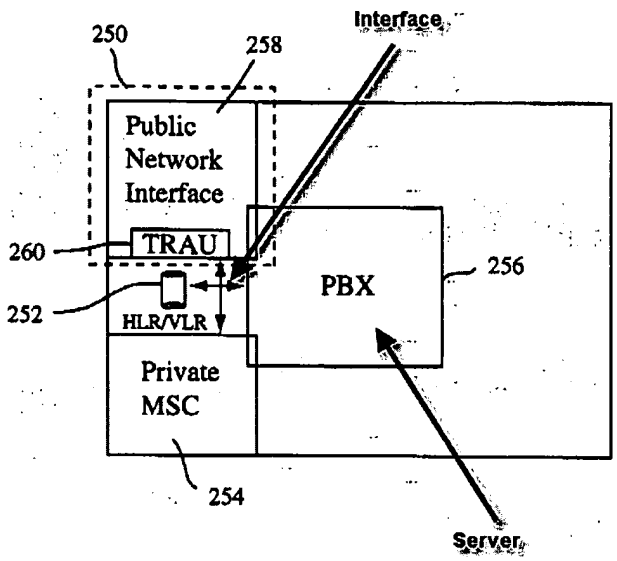

Fig. 2B

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate in Tso's system/method of ***notification system keeping track of the clients,*** with Lu's suggested teaching of ***using an interface with a home location registry for such tracking***. The motivation is that (as suggested by Lu, column7, lines 1-10) Registry serves, among others, to keep track of MS units that are authorized to use the resources of the cellular network, the subscriber data such as names, unique identification information such as is kept in Subscriber Identification Module (SIM) for GSM handsets, telephone numbers associated with the MS units, and the like. Subscriber information is kept track of because cellular network must keep track of the MS units controlled by it as well as the subscribers on its network. Further motivation is that known work (i.e. ***notification system having an interface with a home location registry***) in one field of endeavor (i.e. Lu prior art) may prompt

variations of it for use in either the same field or a different one (i.e. Tso prior art) based on design incentives (i.e. Registry serves, among others, to keep track of MS units that are authorized to use the resources of the cellular network, the subscriber data such as names, unique identification information such as is kept in Subscriber Identification Module (SIM) for GSM handsets, telephone numbers associated with the MS units, and the like. Subscriber information is kept track of because cellular network must keep track of the MS units controlled by it as well as the subscribers on its network) or other market forces/market place incentives if the variations are predictable to one of ordinary skill in the art.

In regards to claim 75, Tso teaches ***notification system accesses the home location registry to retrieve information associated with the cellular phone*** (Tso further discloses that the first notification system (e.g., InfoCast server) accesses the home location registry (e.g., location database in the mobile switching center of a cellular infrastructure) to retrieve information associated with the cellular phone (e.g., location information for the wireless device): In network B 21, mobile switching center A 42 and mobile switching center B 43 control the establishment of calls between different cellular devices, the roaming of portable cellular devices, and the handing-off of devices between different base stations. For roaming purposes, mobile switching center A 42 and mobile switching center B 43 also track the real-time physical location of each cellular device, and a user of each cellular device (4:4-14). Presently, roaming in cellular networks is implemented by devices (or terminals) periodically beaconing their ID's--i.e., phone numbers--to the nearest base station. Base stations also periodically

broadcast cell ID and other control information to all terminals within range. Thus, each cellular device is always aware of its respective location, and the cellular network always knows the location of each terminal as long as that terminal is operating within range of a base station .... There are two databases to which InfoCast servers must have access: one that maps cell ID's to physical locations, and one that maps physical locations to domains. The databases may be distributed or replicated across all InfoCast servers, or be part of the cellular infrastructure (16:24-43). In Block 123, after the old InfoCast server receives the RFC from client A 23, the old InfoCast server requests the current physical location of client A 23 from the MSC serving the area in which client A 23 is located. In this case, as seen in FIG. 2, client A 23 is located in the area served by MSC A 42 and, thus, in Block 125, MSC A 42 returns the physical location of client A 23 (18:28-34)).

In regards to claim 76, Tso teaches ***information retrieved comprises the wireless network location of the cellular phone*** (Tso further discloses that the information received is the wireless network location of the wireless device: In Block 123, after the old InfoCast server receives the RFC from client A 23, the old InfoCast server requests the current physical location of client A 23 from the MSC serving the area in which client A 23 is located. In this case, as seen in FIG. 2, client A 23 is located in the area served by MSC A 42 and, thus, in Block 125, MSC A 42 returns the physical location of client A 23 (18:28-34)).

In regards to claim 92, Tso teaches ***a notification system*** (figure 1, InfoCast Server 17) ***adapted to notify a cellular phone*** (figure 1 or 2, Client A or B, i.e.

elements 23 or 25) ***of contents available at a content storage and retrieval unit*** (figure 1, any one of Content Provider), ***comprising: a notification controller; an input/output controller coupled to the notification controller, the input/output controller*** (In FIG. 3, server A 17 contains a server InfoBite database 50, a server content database 51, a subscriber database 53, and a server resource database 55 coupled to an open database connectivity (ODBC) application programming interface (API) 59. ODBC API 59 is also coupled to an InfoFeed interface 57 and a schedule/resource controller 61. Schedule/resource controller 61 is coupled to a billing service 63, a network A interface 65, and a messaging interface 67 for communicating with a client A 23 through the use of network B 21 (4:43-53)) ***adapted to interface to at least a base station*** (Within network B, element 21 of figure 1; any one of the base station controllers 44 or 45 of figure 2) ***and the content storage and retrieval unit; wherein the notification system is configured to: receive, from the content storage and retrieval unit, information identifying content available for an intended recipient*** (InfoFeed interface 57 enables content providers to update data and resources on server A 17 for specific subscriber locations and times. Thus, content providers may feed information only to those InfoCast servers matching a specific criterion. For example, content provider A 5, while sending news events which are global in nature to the InfoCast server in California, can also limit the type of weather information that is sent to the California InfoCast server to weather conditions which are local to California. InfoFeed interface 57 can also actively contact a content provider over network A 3 without initial contact from the content provider so as to "search" the

internet for new content which might be interesting to users of the system (6:64-7:9)); ***form a notification of the content, wherein the notification identifies the information and the information's location*** (InfoFeed interface 57 will generate summary information as a portion of text from the beginning of a text item if the item is a text file, or a title if the item is a graphics file, an audio file, or a series of video frames. It is to be noted that summary information for different types of files can be placed in a single InfoBite. For example, summary information for a video/audio segment will consist of both a title for the video segment and a title for the segment of audio data. In addition, the resource identifiers for the video and audio data will be included, as described below, so that a client may retrieve those resources." '327 patent, 7:57-67. "After an InfoBite containing one or more resource identifiers is transmitted to a user, if the user wishes to retrieve an article or item identified by a resource identifier, a request is made by the client to the InfoCast server to send the fully qualified URL associated with the resource identifier to the client. The request is made by the client transmitting the resource identifier to the InfoCast server. The InfoCast server will either transmit the fully qualified URL associated with the resource identifier, or, bandwidth permitting, transmit the story or item to the client (8:48-57). After receiving the fully qualified URL, the client can then initiate an InfoAction to retrieve the item identified by the fully qualified URL. In the preferred embodiment, large files and resources are not stored locally by InfoCast servers but are only accessible by using the fully qualified URL to retrieve the resource at the original storage location of the resource (8:58-64)) ***and relay the notification to the cellular phone*** (For each item contained in an InfoCast,

InfoFeed interface 57 will create an "InfoBite," which can be sent to a user in lieu of the full item, as described below. Each InfoBite consists of a title, summary information for the associated item in the InfoCast, such as keywords, category names or titles; and data necessary for a user to: (1) obtain a corresponding item of information from which an InfoBite is generated; (2) obtain a cross reference to an item of information; or, (3) perform certain "InfoActions," as described below. In addition to the methods described below, InfoBites can also be generated by using a custom InfoBite editor (7:30-40)).

Tso teaches server A (element 17) being connected to Base Station Controllers via SMSC and MSC and in column 18 lines 28-34, but does not explicitly teach ***having an interface with a home location registry***.

Lu in the same or similar field of endeavor teaches in a PBX (interpreted as a notification system) having an interface (see figure 2B below) with a home location registry.

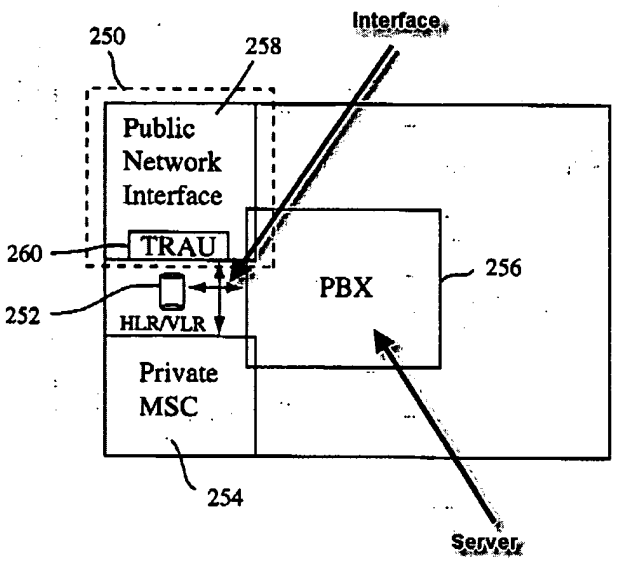

Fig. 2B

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate in Tso's system/method of notification system ***keeping track of the clients,*** with Lu's suggested teaching of ***using an interface with a home location registry***. The motivation is that (as suggested by Lu, column7, lines 1-10) Registry serves, among others, to keep track of MS units that are authorized to use the resources of the cellular network, the subscriber data such as names, unique identification information such as is kept in Subscriber Identification Module (SIM) for GSM handsets, telephone numbers associated with the MS units, and the like. Subscriber information is kept track of because cellular network must keep track of the MS units controlled by it as well as the subscribers on its network. Further motivation is that known work (i.e. ***notification system having an interface with a home location registry***) in one field of endeavor (i.e. Lu prior art) may prompt variations of it for use in

either the same field or a different one (i.e. Tso prior art) based on design incentives (i.e. Registry serves, among others, to keep track of MS units that are authorized to use the resources of the cellular network, the subscriber data such as names, unique identification information such as is kept in Subscriber Identification Module (SIM) for GSM handsets, telephone numbers associated with the MS units, and the like. Subscriber information is kept track of because cellular network must keep track of the MS units controlled by it as well as the subscribers on its network) or other market forces/market place incentives if the variations are predictable to one of ordinary skill in the art.

In regards to claim 93, Tso teaches the input/output controller is configured to access information about the cellular phone from MSC (Tso teaches server A (element 17) being connected to Base Station Controllers via SMSC and MSC and in column 18 lines 28-34, Tso teaches the old InfoCast server requests the current physical location of client A 23 from the MSC serving the area in which client A 23 is located but does not explicitly teach ***server having an interface with a home location registry***.

Lu in the same or similar field of endeavor teaches in a PBX (interpreted as a server) having an interface (see figure 2B below) with a home location registry.

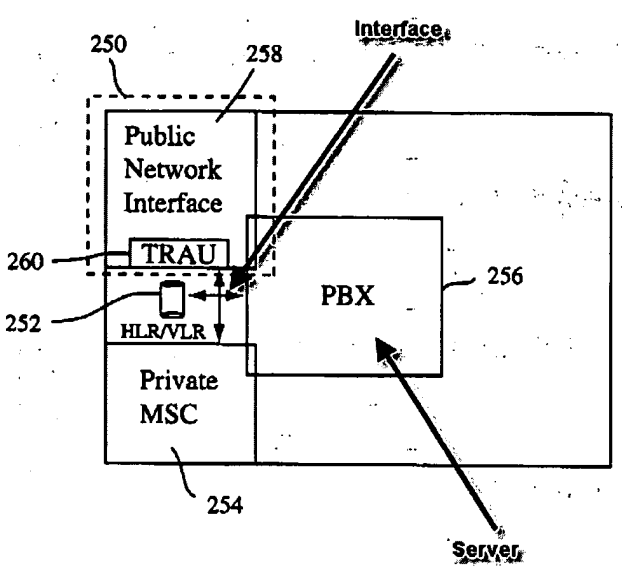

Fig. 2B

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate in Tso's system/method of ***server keeping track of the clients,*** with Lu's suggested teaching of ***using an interface with a home location registry for such tracking***. The motivation is that (as suggested by Lu, column7, lines 1-10) Registry serves, among others, to keep track of MS units that are authorized to use the resources of the cellular network, the subscriber data such as names, unique identification information such as is kept in Subscriber Identification Module (SIM) for GSM handsets, telephone numbers associated with the MS units, and the like. Subscriber information is kept track of because cellular network must keep track of the MS units controlled by it as well as the subscribers on its network. Further motivation is that known work (i.e. ***server having an interface with a home location registry***) in one field of endeavor (i.e. Lu prior art) may prompt variations of it for use in either the

same field or a different one (i.e. Tso prior art) based on design incentives (i.e. Registry serves, among others, to keep track of MS units that are authorized to use the resources of the cellular network, the subscriber data such as names, unique identification information such as is kept in Subscriber Identification Module (SIM) for GSM handsets, telephone numbers associated with the MS units, and the like. Subscriber information is kept track of because cellular network must keep track of the MS units controlled by it as well as the subscribers on its network) or other market forces/market place incentives if the variations are predictable to one of ordinary skill in the art.

In regards to claim 94, Tso teaches ***information accessed by the input/output controller from the MSC comprises the wireless network location of the cellular phone*** (In Block 123, after the old InfoCast server receives the RFC from client A 23, the old InfoCast server requests the current physical location of client A 23 from the MSC serving the area in which client A 23 is located. In this case, as seen in FIG. 2, client A 23 is located in the area served by MSC A 42 and, thus, in Block 125, MSC A 42 returns the physical location of client A 23 (18:28-34).

In regards to claim 95, Tso teaches ***notification system is configured to communicate with a second notification system over at least an SS7 network*** (Tso discloses communication between notification systems is over at least an SS7 network. Specifically, Tso discloses that InfoCast servers will communicate with each other: In Block 129, the old InfoCast server has determined that client A 23 is not in a domain served by the old InfoCast server but, instead, in a domain served by server A 17--i.e.

somewhere in California. Thus, the old InfoCast server will forward the RFC received from client A 23 to server A 17 (18:35-49).

One of ordinary skill in the art would recognize that InfoCast servers are connected to cellular phone networks, e.g. Network B21 (see, e.g., Fig. 2) or over the Internet, e.g. Network A 3 (see, e.g., Fig. 3, 2:54-63). Communication between InfoCast servers over Network B21 could therefore be implemented using available telephonic communication techniques including SS7 signalling).

In regards to claim 96, Tso teaches ***notification system is configured to communicate with a second notification system over at least the Internet*** (Tso discloses communication between notification systems is over at least an internet network. Specifically, Tso discloses that InfoCast servers will communicate with each other: In Block 129, the old InfoCast server has determined that client A 23 is not in a domain served by the old InfoCast server but, instead, in a domain served by server A 17--i.e. somewhere in California. Thus, the old InfoCast server will forward the RFC received from client A 23 to server A 17 (18:35-49).

One of ordinary skill in the art would recognize that InfoCast servers are connected to cellular phone networks, e.g. Network B 21 (see, e.g., Fig. 2) or over the Internet, e.g. Network A 3 (see, e.g., Fig. 3, 2:54-63). Communication between InfoCast servers over Network A 3 would therefore be over the Internet).

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 7, 8, 32 and 85-91 are rejected under 35 U.S.C. 102(e) as being anticipated by Tso et al. (US PAT 6047327, hereinafter Tso).

In regards to claim 7, Tso teaches ***a method of operating a wireless communication device*** (figure 1 or 2, Client A or B, i.e. elements 23 or 25) ***in a communication system*** (System in figure 1) ***that includes a plurality of information storage systems*** (figure 1, InfoCast Server 17, Content Providers 6, 8, 10), ***and a mobile radiotelephone network*** (figure 1, network B 21 and satellite network connecting Content Provider F 8 to server A 17) ***comprising: receiving a notification message from the mobile radiotelephone network*** (column 3, lines 44-46, column 6 lines 49-63, Content provider F 8 is a service providing a video/audio feed to server A 17 through the use of a satellite communications network. Content provider A 5, content provider B 7, content provider C 9 and content provider D 11 would use InfoFeed interface 57 to update (interpreted as notification) the databases contained in server A 17 through the use of ODBC API 59. Access to InfoFeed interface 57 is obtained either

through the use of network A 3; such as the case for content provider A 5, content provider B 7, content provider C 9 and content provider D 11; a modem bank, such as the case for content provider E 6; a satellite link, such as the case for content provider F 8; a direct connection, such as the case for content provider G 10; or any other communication infrastructure allowing the receiving and transmitting of data (i.e. notification). Thus, in the preferred embodiment, InfoFeed interface 57 contains an interface for the internet, modems, satellite transceivers, and direct connections) ***the notification message including (a) a system identifier*** (i.e. resource identifier, s described above, each InfoBite also contains a set of resource identifiers (i.e. storage location). In the preferred embodiment, each resource identifier is a bit pattern generated by InfoFeed Interface 57 for each URL to be included in an 'InfoBite", 8:1-4) ***identifying a particular one of the plurality of information storage systems and (b) a message identifier*** (i.e. interpreted as any one of Title, Topic, Summary) ***identifying information that is stored in at least one of the plurality of information storage systems and which information is intended for a user of the wireless communication device*** (column 13 lines 16-25, For example, InfoBite 93 contains a news story with the title "Global Warming Warning" and has associated resources 95. Associated resources 95 may include a full story text, a full story audio, a video clip, and an URL to a related story. In the preferred embodiment, each of the resources in associated resources 95 is referenced by a fully qualified URL and thus, just the URLs may be stored in server resource database 55. The resources can be stored in server content database 51 (not shown in FIG. 4) or stored outside server A 17 in content

provider E 6); ***alerting the user that the notification message has been received*** (The InfoCast browser is notified of the need to display newly received InfoBites by the InfoCast client (e.g., 11:47-54), and in response to the notification displays the InfoBites on the screen (e.g., 14:52-66). After InfoCast client 77 has updated client resource information database 71, client content database 72 and client InfoBite database 73 with the information received via an SMS broadcast, InfoCast browser 89 is responsible for displaying the new information. In the preferred embodiment, InfoCast browser 89 is notified of the need to display new InfoBites by InfoCast client 77 (11:47-54). In Block 109, InfoCast browser 89, after being notified of the receipt of new information, will retrieve the traffic information InfoBite from client InfoBite database 73 and display it on screen. InfoCast browser 89 will also retrieve any resources necessary from client resource database 71 to display the traffic information InfoBite. Thus, if the InfoBite contains traffic data of the freeway system of Los Angeles and the map of the freeway system of Los Angeles is not presently on screen, then InfoCast browser 89 will first load the map of the freeway system of Los Angeles from client content database 72, if the map is local to client A 23, through the use of ODBC API 75 and display it on screen while InfoCast browser 89 loads the traffic information InfoBite from client InfoBite database 73 and displays that traffic information InfoBite, (14:52-66)); ***receiving input from the user specifying an action to be performed on the information corresponding to the notification message*** (In Block 253, after the user of client A 23 decides to retrieve the "Full Story Audio" resource, client A 23 sends an InfoAction (i.e. ***specifying an action***) to request the download of the InfoCast

resource referenced by the URL identified by resource number "FFFFFF" from server A 17 .... In an alternative embodiment, where the resource requested is contained in server content database 51 of server A 17, server A 17 can send the resource directly to client A 23 instead of sending the fully qualified URL", 24:55-66. In the preferred embodiment, content provider A 5 is a hyper-text transport protocol (HTTP) server that can provide a real-time news service to the various computer systems connected to network A 3 via hyper-text markup language (H1ML) documents. Content provider B 7 is a file transfer protocol (FTP) server which allows clients to access files located on the server. Content provider C 9 is another HTTP server maintained by a business and configured to be able to process electronic transactions. Content provider D 11 is an HTTP server configured to provide advertising information via HTML documents", 3:8-18. After receiving the fully qualified URL, the client can then initiate an InfoAction (i.e. ***specifying an action***) to retrieve the item identified by the fully qualified URL. In the preferred embodiment, large files and resources are not stored locally by InfoCast servers but are only accessible by using the fully qualified URL (i.e. ***specifying an action***) to retrieve the resource at the original storage location of the resource, (8:58-64)***; and transmitting via a mobile radiotelephone network, to the information storage system identified by the system identifier, an action identifier corresponding to the action specified by the user*** (In particular, Tso discloses that the wireless communication device (e.g., Client A 23, Client B 25) transmits via radiotelephone network (e.g., Network B 21) an action identifier (e.g., a resource identifier (8:48-57), an HTTP request containing a URL (9:4-7, 14:21-34) or an FI~P

request) to retrieve the additional data (e.g., an HTML file (13:35-40) or non-text element (10:10-24)) specified in the InfoBite, either from the InfoCast server (e.g., Server A 17) or from a remote information storage system (e.g., Content Provider A 5-Content Provider G 10), based on the user specifying the action of retrieving additional data (e.g., "Internet Access" action (9:30-36) or "Download InfoCast Resource" action (9:37-43)). After an InfoBite containing one or more resource identifiers is transmitted to a user, if the user wishes to retrieve an article or item identified by a resource identifier, a request is made by the client to the InfoCast server to send the fully qualified URL associated with the resource identifier to the client. The request is made by the client transmitting the resource identifier to the InfoCast server. The InfoCast server will either transmit the fully qualified URL associated with the resource identifier, or, bandwidth permitting, transmits the story or item to the client, (8:48-57). In Block 113, InfoCast browser 89 receives the request of the user for the performing of an InfoAction, performs the InfoAction, and logs the request for notifying schedule/resource controller 61 of the user's request. Depending on the InfoAction to be performed, an InfoCast server or a content provider might be used to service the request, (15:4-17)***; alerting the user that the action specified by the user has been completed*** (The request is made by the client transmitting the resource identifier to the InfoCast server. The InfoCast server will either transmit the fully qualified URL (interpreted as ***alerting*** step) associated with the resource identifier, or, bandwidth permitting, transmit the story or item (interpreted as ***alerting*** step) to the client (8: 53-57). In Block 255, server A 17 looks up the fully qualified URL identified by resource number "FFFFFF" in

server resource database 55 and transmits the URL (interpreted as ***alerting*** step) to client A 23. In an alternative embodiment, where the resource requested is contained in server content database 51 of server A 17, server A 17 can send the resource (interpreted as ***alerting*** step) directly to client A 23 instead of sending the fully qualified URL (24:60-65). As mentioned in Block 107, the map of the freeway system of Los Angeles can alternatively be loaded (interpreted as ***alerting*** step) from server content database 51 of server A 17 or from the resource identifier." '327 patent, (14:57-15:2). In Block 26 I, after client A 23 has retrieved (interpreted as ***alerting*** step) the "Full Story Audio" resource, InfoCast browser 89 is used to play the audio information (25: 14-19).

In regards to claim 8, Tso teaches ***a mobile communication device*** (figure 1 or 2, Client A or B, i.e. elements 23 or 25) ***that transmits data to and receives data from a communication system,*** (System in figure 1) ***comprising: a radio receiver coupled to antenna*** (Tso discloses a cellular wireless data transmission system, and cellular wireless data transmission inherently requires the use of an antenna and radio receiver (below)):

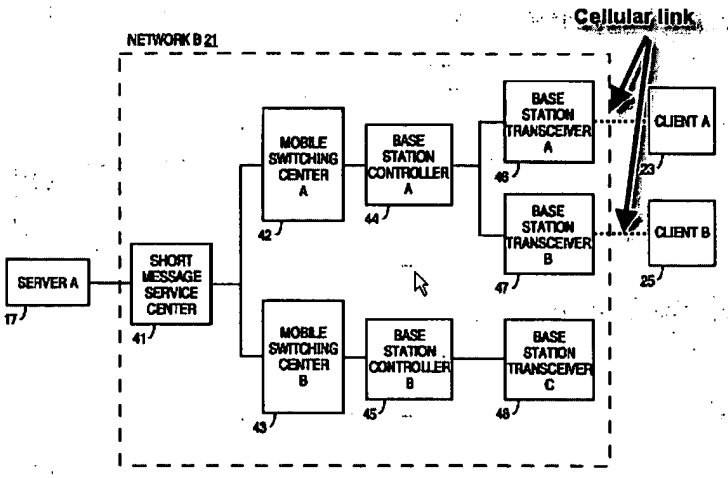

FIG. 2

and configured to receive a notification message from a first remote system (figure 1, from InfoCast Server 17; For each item contained in an InfoCast, InfoFeed interface 57 will create an 'InfoBite,' which can be sent to a user in lieu of the full item, as described below. Each InfoBite consists of a title, summary information for the associated item in the InfoCast, such as keywords, category names or titles; and data necessary for a user to: (1) obtain a corresponding item of information from which an InfoBite is generated; (2) obtain a cross reference to an item of information; or, (3) perform certain 'InfoActions,' as described below (7:30-39). After an InfoBite containing one or more resource identifiers is transmitted to a user, if the user wishes to retrieve an article or item identified by a resource identifier, a request is made by the client to the InfoCast server to send the fully qualified URL associated with the resource identifier to the client. The request is made by the client transmitting the resource identifier to the InfoCast server. The InfoCast server will either transmit the fully qualified URL associated with the resource identifier, or, bandwidth permitting, transmit the story or

item to the client (8:48-57)), ***the notification message including a system identifier*** (i.e. resource identifier, s described above, each InfoBite also contains a set of resource identifiers (i.e. storage location). In the preferred embodiment, each resource identifier is a bit pattern generated by InfoFeed Interface 57 for each URL to be included in an InfoBite", 8:1-4) ***identifying a second remote system*** (figure 1, any one of Content Provider) ***and an information identifier*** (i.e. interpreted as any one of Title, Topic, Summary) ***identifying information stored in the second remote system*** (column 13 lines 16-25, For example, InfoBite 93 contains a news story with the title "Global Warming Warning" and has associated resources 95. Associated resources 95 may include a full story text, a full story audio, a video clip, and an URL to a related story. In the preferred embodiment, each of the resources in associated resources 95 is referenced by a fully qualified URL and thus, just the URLs may be stored in server resource database 55. The resources can be stored in server content database 51 (not shown in FIG. 4) or stored outside server A 17 in content provider E 6); ***a user interface including at least a keypad*** (column 23, lines 26-30 and 57-59, Continuing with Block 207, after a user is sent the InfoBite, the user can respond with a message indicating that the user liked the contents of the InfoBite by selecting a button (implying a keypad) on screen. In that situation, there would be a "Veto" button (implying a keypad) so that the user can veto the placement of the keyword in the user's list) ***and a display screen*** (figure 5, in Block 109, the traffic information InfoBite is displayed implies a display screen) ***coupled to the receiver and configured to receive from a user an input specifying an action to be performed on the information stored in***

the second remote system (After an InfoBite containing one or more resource identifiers is transmitted to a user, if the user wishes to retrieve an article or item identified by a resource identifier, a request is made by the client to the InfoCast server to send the fully qualified URL associated with the resource identifier to the client. The request is made by the client transmitting the resource identifier to the InfoCast server. The InfoCast server will either transmit the fully qualified URL associated with the resource identifier, or, bandwidth permitting, transmit the story or item to the client (8:48-57). After receiving the fully qualified URL, the client can then initiate an InfoAction to retrieve the item identified by the fully qualified URL (8:58-60). In the preferred embodiment, as described above, the InfoAction would contain data allowing a user to (1) retrieve one or more URLs referenced by the resource identifiers from schedule/resource controller 61; (2) send information; or (3) execute scripts either locally on client A 23 or remotely on server A 17 (16:9-15)); ***a controller including a processor coupled to the receiver and user interface and programmed*** (In column 4 lines 54-64, Tso teaches Client A23 containing a client resource database 71, a client content database 72 and a client InfoBite database 73 coupled to an ODBC API 75. ODBC API 75 is also coupled to an InfoCast client 77 and an InfoCast browser 89. InfoCast browser 89 is coupled to a back channel interface 81 and an InfoAction API 87. InfoAction API 87 is coupled to an application A 83 and an application B 85, both of which are also coupled to back channel interface 81. InfoCast client 77 is coupled to messaging interface 79 for allowing client A 23 to communicate with server A 17 through the use of network B 21. Examiner submits that A 23 inherently will have a

controller including a processor coupled to the receiver and user interface and programming for all the above mentioned components) ***to generate a request message indicating the action to be performed on the information and for addressing the request message to the second remote system*** (As described in Table 1, above, there are different types of InfoActions, identified by the Action_Type field. These InfoActions allow the user to perform actions, such as access the internet, initiate voice calls, and process scripts, on the client. When the InfoAction is executed by the browser, the Action_Type field is used to determine the way in which the information in the Data field is interpreted. For instance, an Action_Type code of "OOH" tells the browser that the Data field of the action contains a URL and a WWW browser should be executed using the URL as a parameter. Alternatively, Action_Type code of "03H" tells InfoCast browser 89 that the Data field of the action contains actual HTML text. In the latter case, InfoCast browser 89 may save the text as a file and a WWW browser would be run using the name of the locally saved HTML file as a parameter. In this way, the HTML file can be viewed. Table 2, below, describes the contents of various InfoAction Data fields and suggested codes which could be used (8:65-9:14). In Block 113, InfoCast browser 89 receives the request of the user for the performing of an InfoAction, performs the InfoAction, and logs the request for notifying schedule/resource controller 61 of the user's request. Depending on the InfoAction to be performed, an InfoCast server or a content provider might be used to service the request (15:4-17). After receiving the fully qualified URL, the client can then initiate an InfoAction to retrieve the item identified by the fully qualified URL. In the preferred embodiment, large

files and resources are not stored locally by InfoCast servers but are only accessible by using the fully qualified URL to retrieve the resource at the original storage location of the resource (8:58-64); ***and a transmitter coupled to the antenna and configured to transmit*** (Tso discloses a cellular wireless data transmission system, and cellular wireless data transmission inherently requires the use of an antenna and transmitter (below)):

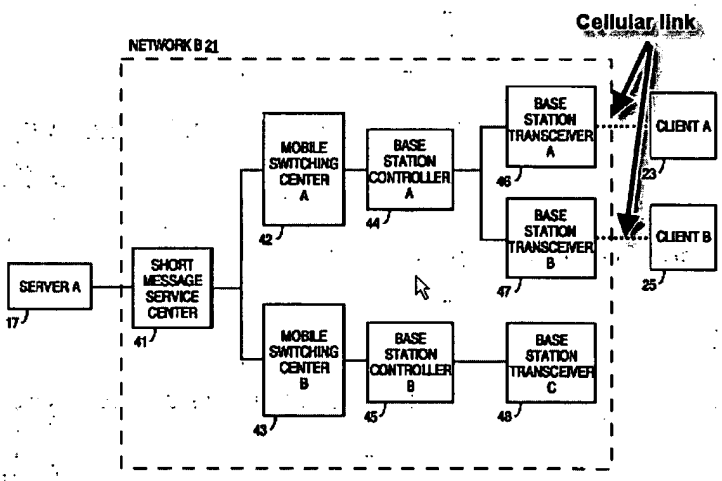

FIG. 2

the request message to the second remote system; the controller configured to notify the user when the action to be performed on the information has been completed (The request is made by the client transmitting the resource identifier to the InfoCast server. The InfoCast server will either transmit the fully qualified URL (interpreted as ***notifying*** step) associated with the resource identifier, or, bandwidth permitting, transmit the story or item (interpreted as ***notifying*** step) to the client (8: 53-57). In Block 255, server A 17 looks up the fully qualified URL identified by

resource number "FFFFFF" in server resource database 55 and transmits the URL (interpreted as ***notifying*** step) to client A 23. In an alternative embodiment, where the resource requested is contained in server content database 51 of server A 17, server A 17 can send the resource (interpreted as ***notifying*** step) directly to client A 23 instead of sending the fully qualified URL (24:60-65). As mentioned in Block 107, the map of the freeway system of Los Angeles can alternatively be loaded (interpreted as ***notifying*** step) from server content database 51 of server A 17 or from the resource identifier." '327 patent, (14:57-15:2). In Block 26 l, after client A 23 has retrieved (interpreted as ***notifying*** step) the "Full Story Audio" resource, InfoCast browser 89 is used to play the audio information (25: 14-19).

In regards to claim 32, Tso teaches ***at least one of the alerts comprises a graphic alert*** (After InfoCast client 77 hasupdated client resource information database 71, client content database 72 and client InfoBite database 73 with the information received via an SMS broadcast, InfoCast browser 89 is responsible for displaying the new information. In the preferred embodiment, InfoCast browser 89 is notified of the need to display new InfoBites by InfoCast client 77 (11:47-54). In Block 109, InfoCast browser 89, after being notified of the receipt of new information, will retrieve the traffic information InfoBite from client InfoBite database 73 and display it on screen. InfoCast browser 89 will also retrieve any resources necessary from client resource database 71 to display the traffic information InfoBite. Thus, if the InfoBite contains traffic data of the freeway system of Los Angeles and the map of the freeway system of Los Angeles is not presently on screen, then InfoCast browser 89 will first load the map of the

freeway system of Los Angeles from client content database 72, if the map is local to client A 23, through the use of ODBC API 75 and display it on screen while InfoCast browser 89 loads the traffic information InfoBite from client InfoBite database 73 and displays that traffic information InfoBite (14:52-66).

In regards to claim 85, Tso teaches ***a method of remotely controlling content stored on a content storage and retrieval unit*** (figure 1, any one content provider) ***coupled to a notification system*** (server A 17), ***the notification system including a notification terminal controller coupled with an input/output controller*** (In FIG. 3, server A 17 contains a server InfoBite database 50, a server content database 51, a subscriber database 53, and a server resource database 55 coupled to an open database connectivity (ODBC) application programming interface (API) 59. ODBC API 59 is also coupled to an InfoFeed interface 57 and a schedule/resource controller 61. Schedule/resource controller 61 is coupled to a billing service 63, a network A interface 65, and a messaging interface 67 for communicating with a client A 23 through the use of network B 21), ***and adapted to provide notifications to the cellular phone of content available from the content storage and retrieval unit*** (It is to be noted that as resources are also cached locally on clients, such as in client content database 72, a client will first check to see if the resource to be requested from the InfoCast server is contained locally on the client through the use of the resource identifier and client resource database 71. If the resource or file is contained locally and has not been deemed to be outdated by checking the resource's expiration time stamp, then the local resource will be accessed and there will be no need to contact InfoCast server, except